Card Access Report Management Application 4.0 for Picture Perfect™ Administration Guide

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The Apache httpd server is a project of Apache Software Foundation.
Mod_SSL, a cryptography module for Apache Webserver, was developed by Ralf Engelschall (©1998).
libstdc++. The libstdc++ project is contributed to by several developers all over the world.
GCC 2.96. Developed by the Free Software Foundation.

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Using This Manual

Chapter 1

Purpose

This manual provides instructions for installation of the Card Access Report Management Application (CARMA), initial setup, and configuration. It also contains information for operating the system once it is installed.

This chapter covers the following topics:

- Who Should Read This Manual
- Related Documentation
- Terminology
- Notational and Typographical Conventions

NOTE

If you have a previous version of this manual, you may notice changes since the last publication, marked by a change bar which is a vertical line in the margin that visually identifies significant new or revised information.

Who Should Read this Manual

This manual is intended for system administrators who are responsible for the planning and implementation of the system design, and who perform system configuration and setup using Picture Perfect forms that are accessible only to the master-level operator.

This manual is also intended for operators of CARMA, and covers the features that are likely to be used on a daily basis.

Operators using the system should read the chapters which relate to their duties.

The material in this manual has been prepared for persons responsible for, and familiar with the security needs of the customer facility.

Related Documentation

☞ For detailed information on Picture Perfect.

Picture Perfect 4.0 User Manual

This manual provides information for the system administrator to set up, configure, and manage the Picture Perfect database for the customer's facility.

☞ For detailed information about installing and upgrading Picture Perfect on a Risc or a LInux System.

Picture Perfect 4.0 Installation Manual

This manual is a step-by-step guide to help the system administrator connect hardware, boot, install, and configure the operating system, and install the Picture Perfect 4.0 software.

Terminology

Click

To "click" means to press and release a mouse button while the pointer is on a designated area of the screen in order to display a window or select an option. The press-and-release makes a clicking sound.

The term "double-click" means to press and release a mouse button twice in rapid succession. "Left-click" and "right-click" mean to click the button on the left or right side of the mouse.

Select

The word "select" indicates that you choose an item from the current menu, submenu, form, or list box displayed on the screen. Use the mouse or the cursor keys to select the item. For example:

Select **Devices,** then **Terminals**.

The statement above tells you to select a certain submenu **(Devices)** and then to select a certain form **(Terminals)** from that submenu. If you make the selections with a mouse, you will point to the **Devices** icon and click the left mouse button. When the submenu icons appear, you will point and double-click the **Terminals** icon to select this form.

If you make the selections with a keyboard, you will use the cursor keys instead of a mouse pointer, and the **ENTER** key instead of the left mouse button.

Press

The phrase "press the _____ button" means to use the mouse (or the keyboard) to "press" a designated button on the screen. To press a button with the mouse, point then click the left button. To press a button with the keyboard, use the **TAB** key and press **ENTER** or **SPACEBAR**.

Command

The word "command" indicates a command which would be typed as specified.

Notational and Typographical Conventions

This manual uses certain notational and typographical conventions to make it easier for you to identify important information.

Table 1-1: Notational and Typographical Conventions

Item	Example
Menu Titles, Menu Items, Field Names, Form Titles	**Administration**
Keys	**ENTER**
Buttons	**OK**
Text you enter	**`Micro 1`** To reduce the confusion between similar numbers and letters, namely the number **`1`** and the lowercase letter **`l`** along with the number **`0`** and the letter **`O`**, refer to the following list: **`1234567890`** **`ABCDEFGHIJKLMNOPQRSTUVWXYZ`** **`abcdefghijklmnopqrstuvwxyz`**
☞	Provides important information in a concise manner. The graphic is displayed on the left side of the page followed by the information.

Table 1-1: Notational and Typographical Conventions (Continued)

Item	Example
Notes	This graphic is displayed to note additional information that emphasizes or supplements important points:
Caution	This graphic is displayed to advise the user that failure to take or avoid a specified action could result in loss of data:
Warnings	This graphic is displayed to warn the user that failure to take or avoid a specified action could result in physical harm to the user or the hardware:
Operating System	AIX Information for an AIX system follows this symbol. Linux Information for a Linux system follows this symbol.

System Overview

Chapter 2

Introduction

The Card Access Report Management Application (CARMA) is an HTML-based report administration tool designed to allow department managers, or other individuals to generate their own card access system reports.

CARMA was designed for speed and ease of use. Several new technologies are introduced to improve report performance and accuracy.

Designed for the GE Picture Perfect card access system, CARMA lets you search through your cardholder and system database information easier and in ways never before possible with Picture Perfect.

A configuration overview appears on the next page.

This chapter covers the following topics:

- System Requirements
- Server Requirements
- Firewalls

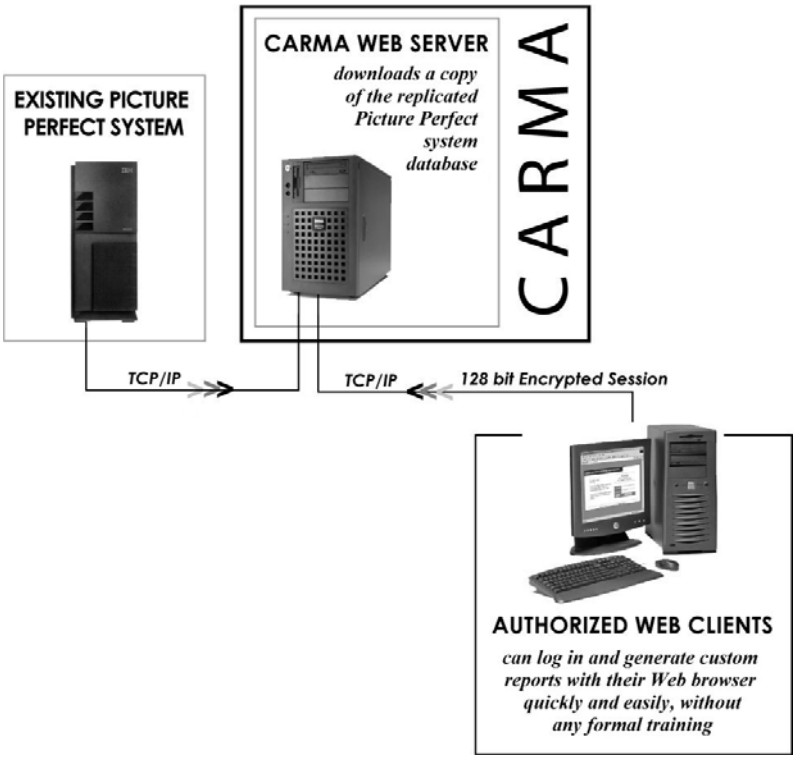

EXISTING PICTURE PERFECT SYSTEM
CARMA WEB SERVER
downloads a copy of the replicated Picture Perfect system database
CARMA
TCP/IP
TCP/IP
128 bit Encrypted Session
AUTHORIZED WEB CLIENTS
can log in and generate custom reports with their Web browser quickly and easily, without any formal training

Figure 2-1. System Overview

Using a secure login over an encrypted browser session, you can generate reports including people, badge activity, alarm activity, operator activity, check system status, and more. All database information is replicated from the Picture Perfect host and stored on the reporting server. All features can be accessed by using menus, list boxes, and text boxes.

System Requirements

- RedHat® Enterprise Linux™4 Upgrade 4 x86 family of operating systems
- CARMA 4.0 is compatible with Picture Perfect 4.0, Service Pack 2 or higher

NOTE The following software components are included with the CARMA software and are automatically configured during installation.

- httpd Web Server 2.0.52-9 (ent) or later
- PHP HTML-embedded scripting language 4.3.9-3.1 (ent) or later
- MySQL™ Server 4.1.7-4. RHEL 4.1 and MySQL Client 10-3.23.58-4. RHEL 4.1 (MySQL Database and Client Application)
- Mod_ssl (ent) for Secure Web Sessions
- Libstdc++
- IBM/Informix® Client SDK Version 2.81.UC3
- PHP MySQL 4.3.9-3.1 (ent) (PHP applications that use MySQL databases)
- GD 2.0.28-4 and PHP-GD 4.3.9-3.1 (Graphics Library)

Server Requirements

Minimum Requirements:

- Intel® Pentium® III 800 MHz or better
- 512 MB RAM or better
- CD-ROM drive
- 18 GB hard drive
- Red Hat Linux supported SVGA card
- Red Hat Linux supported 10/100MB Ethernet NIC

We suggest the following configuration for large Picture Perfect systems with high transaction rates:

- Dual Core Pentium®
- 1 GB RAM or better
- High perfomance disk controller
- 36 GB hard drive or better
- CD-ROM drive
- DDS4 4mm DAT tape drive (for backup)
- Red Hat Linux supported SVGA card
- Red Hat Linux supported 10/100MB Ethernet NIC

Firewalls

We recommend that Secure Socket Layer(SSL) be used when firewall traversal is required. In this case, only ports 1960 and 514 should be configured for TCP (transmission control protocol) between the CARMA and the Picture Perfect hosts. For more information on setting up SSL for use with your CARMA server, please see *Chapter 5 - Secure Socket Layer*.

NOTES

Installation and Removal

Chapter 3

Introduction

NOTE

If you are upgrading from a previous version of CARMA, you will need to convert and backup your database prior to installing RedHat Linux Enterprise 4 Upgrade 4. Begin with *Chapter 4 - Upgrading Carma from a Previous Version*, and when instructed, return to this chapter.

This section guides you through the installation of RedHat Linux on your CARMA server. If you purchased the server from GE, it came preloaded. Otherwise, start below and follow the instructions for installing RedHat Linux and then continue with "Installing CARMA" on page 3.39.

This chapter covers the following topics:

- Installing Red Hat Linux
- Installing CARMA
- Removing CARMA

Installing Red Hat Linux

NOTE

These instructions assume you are using an official copy of Red Hat Linux Enterprise 4 Upgrade 4 that was obtained from Red Hat, Inc.

➤ To begin installation of Red Hat Linux:

1. Insert the Red Hat Linux Disk 1 in the CD-ROM drive and boot your computer.

2. When asked if you want to install Red Hat Linux in graphical or text mode, press Enter to select graphical mode.

   Result: The system performs various tests, probes for devices such as the monitor and mouse, and when finished, displays a Welcome screen.

3. Click **Next**

   Result: The Language Selection screen displays.

Figure 3-1. Language Selection

4. Choose your Language and then click **Next**.

   Result: The **Keyboard Configuration** dialog displays.

Figure 3-2. Keyboard Configuration

5. Choose the appropriate keyboard configuration for your system and click **Next**.

NOTE For most U.S. systems, the default U.S. English can be used.

Result: If a previous version of Red Hat Linux is detected, a screen displays where you can choose to upgrade or perform a new installation.
If no previous version of Red Hat Linux is detected, skip to step 7.

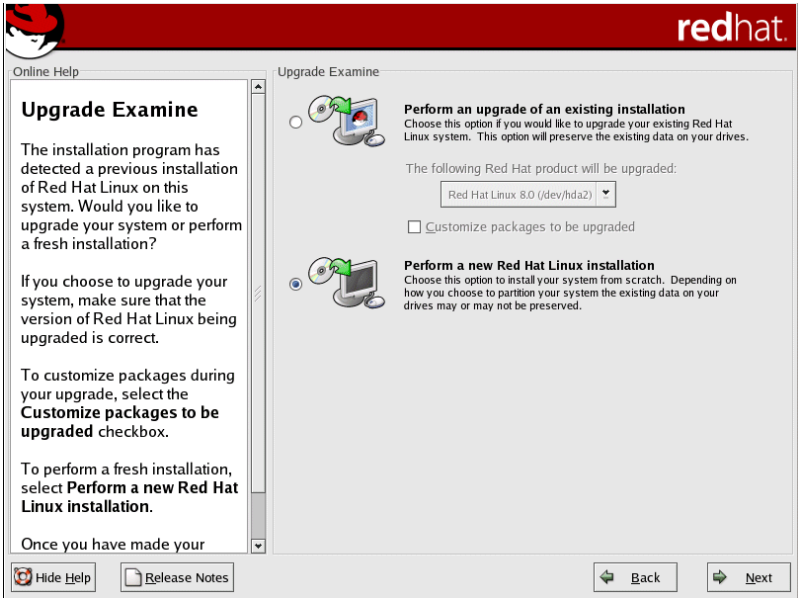

redhat.
Online Help
Upgrade Examine
The installation program has detected a previous installation of Red Hat Linux on this system. Would you like to upgrade your system or perform a fresh installation?
If you choose to upgrade your system, make sure that the version of Red Hat Linux being upgraded is correct.
To customize packages during your upgrade, select the Customize packages to be upgraded checkbox.
To perform a fresh installation, select Perform a new Red Hat Linux installation.
Once you have made your
Upgrade Examine
Perform an upgrade of an existing installation
Choose this option if you would like to upgrade your existing Red Hat Linux system. This option will preserve the existing data on your drives.
The following Red Hat product will be upgraded:
Red Hat Linux 8.0 (/dev/hda2)
Customize packages to be upgraded
Perform a new Red Hat Linux installation
Choose this option to install your system from scratch. Depending on how you choose to partition your system the existing data on your drives may or may not be preserved.
Hide Help
Release Notes
Back
Next

Figure 3-3. Install Options

6. Select **Perform a new Red Hat Linux installation** in order to perform a full installation of the server. Then, click **Next.**

   Result: The Disk Partitioning Setup dialog displays.

redhat
Online Help
Disk Partitioning Setup
Disk Partitioning Setup
One of the largest obstacles for a new user during a Linux installation is partitioning. Red Hat Enterprise Linux makes this process easier by providing automatic partitioning.
By selecting automatic partitioning, you will not have to use partitioning tools to assign mount points, create partitions, or allocate space for your installation.
To partition manually, choose the Disk Druid partitioning tool.
Use the Back button to choose
Automatic Partitioning sets partitions based on the selected installation type. You also can customize the partitions once they have been created.
The manual disk partitioning tool, Disk Druid, allows you to create partitions in an interactive environment. You can set the file system types, mount points, partition sizes, and more.
Automatically partition
Manually partition with Disk Druid
Hide Help
Release Notes
Back
Next

Figure 3-4. Disk Partitioning Setup

7. Choose **Manually partition with Disk Druid**, then click **Next**.

   Result: The **Disk Setup** dialog displays.

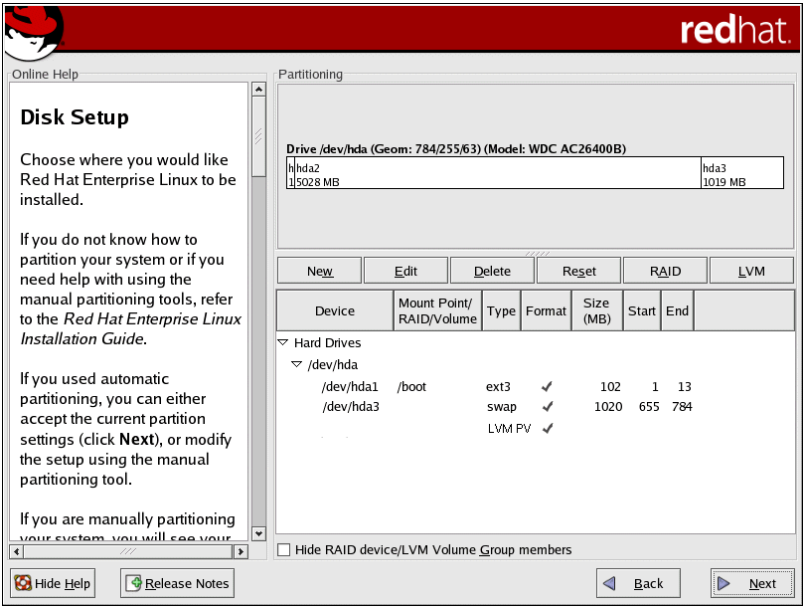


Figure 3-5. Disk Setup

NOTE

If you are reinstalling an existing system:
1. Remove LVM volume groups by selecting "**rootvg**" and click **Delete**.
2. Highlight any existing hard disk partitions, for example **/dev/sda** and click **Delete**.

8. It will be necessary to configure logical volumes on the hard drive that you are using for the Linux installation. Select the hard drive displayed in the list.

9. Click **New**.

   Result: The following dialog displays.

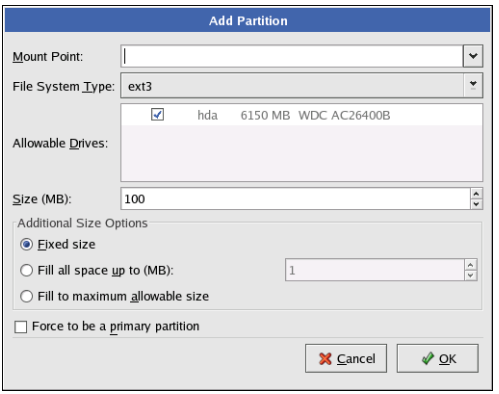


Figure 3-6. Add Partition Dialog

10. Complete the form as follows:

    - Mount Point: **/boot**
    - File System Type: **ext3**
    - Allowable Drives: *The hard disk on which you are installing the Linux operating system.*
    - Size (MB): **100**
    - Additional Size Options: **Fixed size**

11. Click **OK**

    Result: You are returned to the Disk Setup screen.

12. Click **New** again.

13. Complete the form as follows:

    - Mount Point: *Leave blank*
    - File System Type: **swap**
    - Allowable Drives: *The hard disk on which you are installing the Linux operating system.*
    - Size (MB): *The amount of swap space should be twice the amount of RAM in your system. For example, if you have 512 MB of RAM, you should allocate 1024 MB of swap space.*
    - Additional Size Options: **Fixed size**

14. Click **OK**

    Result: You are returned to the Disk Setup screen.

15. Click **New** again.

16. Complete the form as follows:

    - Mount Point: *Leave blank.*
    - File System Type: **Physical Volume**
    - Allowable Drives: *The hard disk on which you are installing the Linux operating system.*
    - Size (MB): *Leave blank.*
      ***Note**: If a value of 1 displays, this is acceptable. Ignore it and proceed.*

- Additional Size Options: **Fill to maximum allowable size**

17. Click **OK.**

    Result: You are returned to the Disk Setup screen.

18. Highlight the physical volume created in step 16.

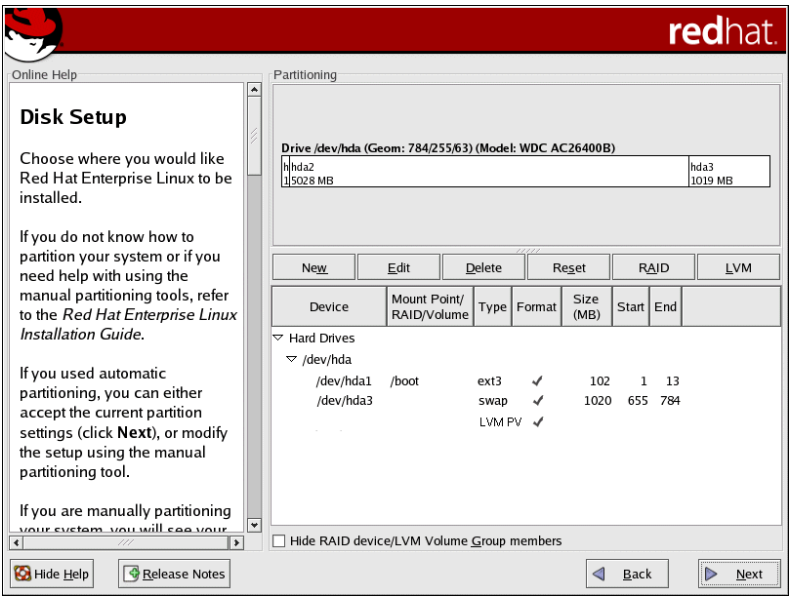


Figure 3-7. Disk Setup

19. Click **LVM** to create a physical volume group.

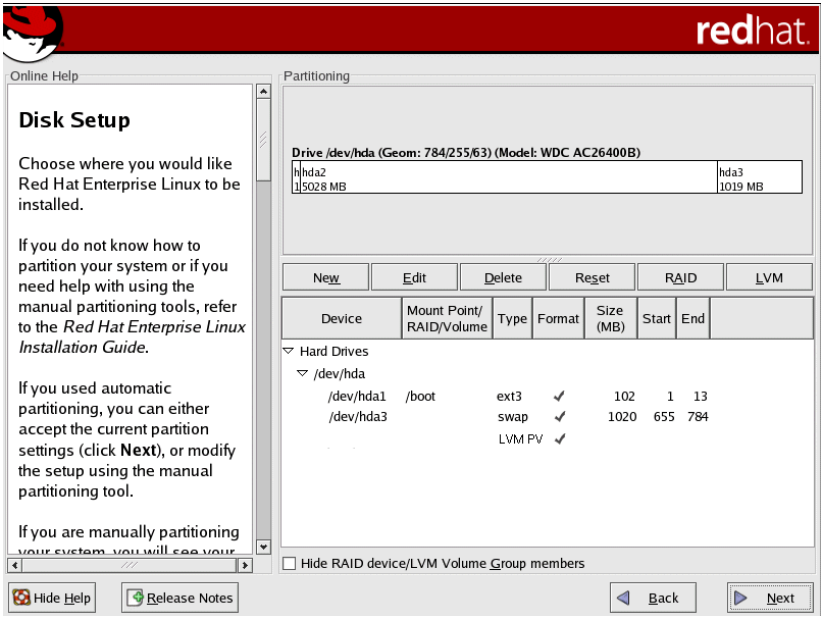


Figure 3-8. Disk Setup

NOTE

LVM is a method of allocating hard drive space into logical volumes that can be easily resized instead of partitions. With LVM, the hard drive or set of hard drives is allocated to one or more physical volumes. Since a physical volume can not span over more than one drive, to span over more than one drive, create one or more physical volumes per drive. The logical volume group is divided into logical volumes, which are assigned mount points such as /home and / and file system types such as ext3. When “partitions” reach their full capacity, free space from the logical volume group can be added to the logical volume to increase the size of the partition. When a new hard drive is added to the system, it can be added to the logical volume group, and the logical volumes that are the partitions can be expanded.

Result: The Make LVM Volume Group dialog is displayed.

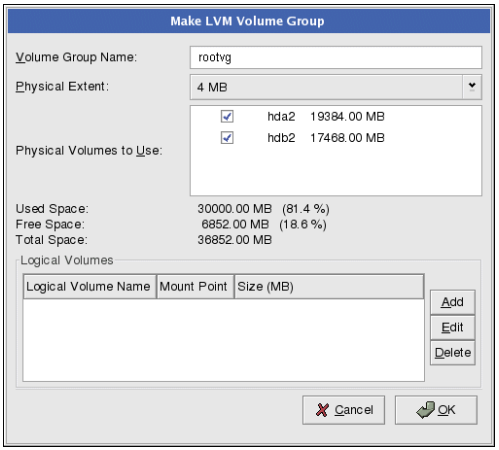


Figure 3-9. Make LVM Volume Group

20. Complete the form as follows:
    - Volume Group Name: **rootvg** (*must be spelled exactly as shown in lower case*)
    - Physical Extent: **4MB**
    - Physical Volumes to Use: *The name of the physical volume created in step 16*.

21. Click **Add**.

    Result: The Make Logical Volume dialog appears.

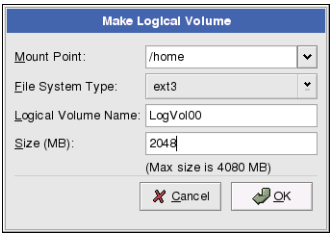


Figure 3-10. Make Logical Volume

22. Create logical volumes, using the values shown in Table 3-1, "Minimum Filesystem Size," on page 14. After entering each logical volume, click OK.

23. You will be returned to the Make LVM Volume Group dialog.

24. Repeat step 21 through step 23 for each logical volume entry.

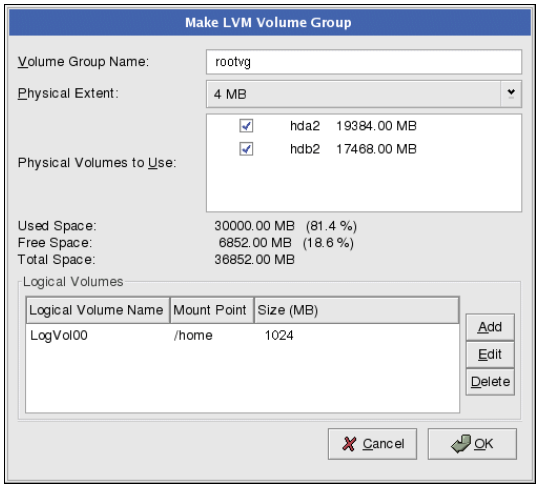
Table 3-1: Minimum Filesystem Size

Mount Point	File System Type	Logical Volume Name	18GB Drive	36GB Drive
/	ext3	LogVol00	1024	2048
/home	ext3	LogVol01	1024	2048
/tmp	ext3	LogVol02	1536	2048
/usr	ext3	LogVol03	6000	6000
/var	ext3	LogVol04	8000	16000

NOTE

For ease of use, as well as avoiding typographical errors when defining your mount points, we suggest that you select the desired mount point names from the list provided. To choose from the list, click the down arrow to the right of the mount point definition field.

25. When you are done defining your partitions, click **OK** to accept your **Make LVM Volume Group** settings.



Result: You are returned to the Disk Setup screen.

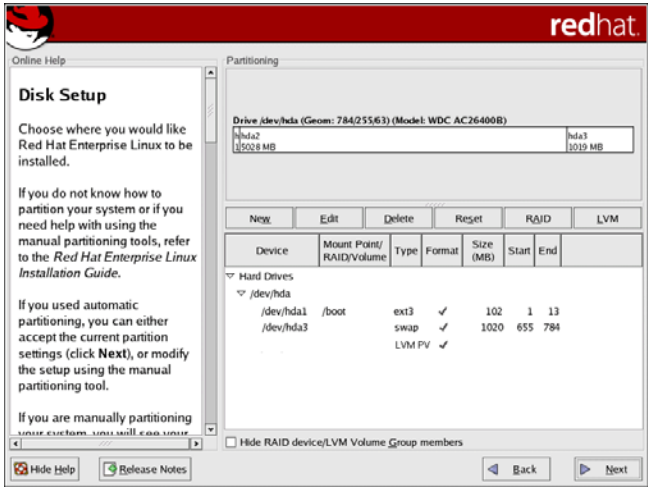


Figure 3-11. Disk Setup

26. Click **Next** to continue.

    Result: The Boot Loader Configuration dialog will be displayed.

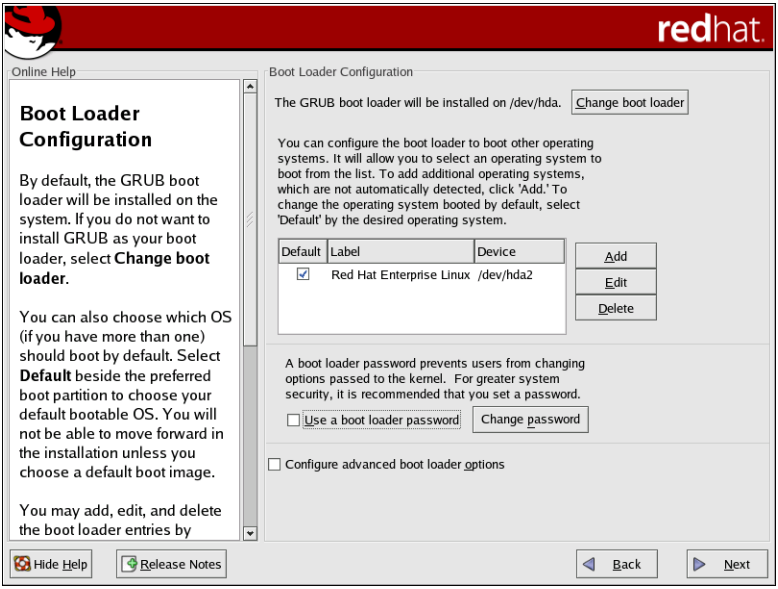

redhat
Online Help
Boot Loader Configuration
The GRUB boot loader will be installed on /dev/hda.
Change boot loader
You can configure the boot loader to boot other operating systems. It will allow you to select an operating system to boot from the list. To add additional operating systems, which are not automatically detected, click 'Add.' To change the operating system booted by default, select 'Default' by the desired operating system.
Default
Label
Device
Red Hat Enterprise Linux
/dev/hda2
Add
Edit
Delete
A boot loader password prevents users from changing options passed to the kernel. For greater system security, it is recommended that you set a password.
Use a boot loader password
Change password
Configure advanced boot loader options
Boot Loader Configuration
By default, the GRUB boot loader will be installed on the system. If you do not want to install GRUB as your boot loader, select Change boot loader.
You can also choose which OS (if you have more than one) should boot by default. Select Default beside the preferred boot partition to choose your default bootable OS. You will not be able to move forward in the installation unless you choose a default boot image.
You may add, edit, and delete the boot loader entries by
Hide Help
Release Notes
Back
Next

Figure 3-12. Boot Loader Configuration

27. Accept the default settings and click **Next** to continue.

    Result: The Network Configuration dialog is displayed.

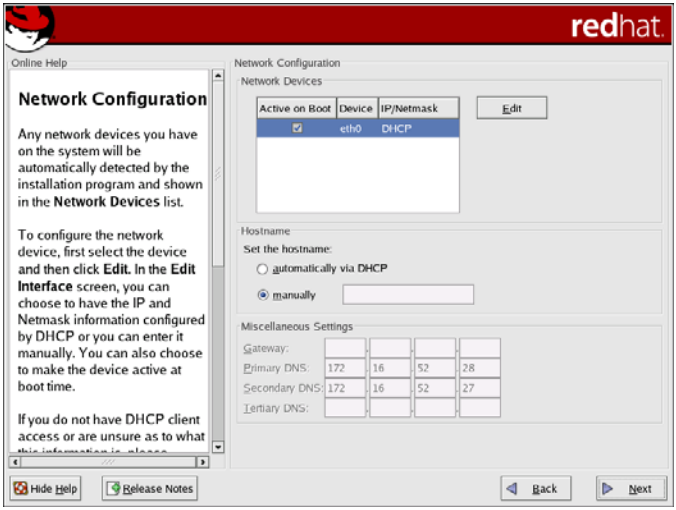


Figure 3-13. Network Configuration

28. Click **Edit** to set parameters for the network interface.

    Result: The Edit Interface dialog displays.

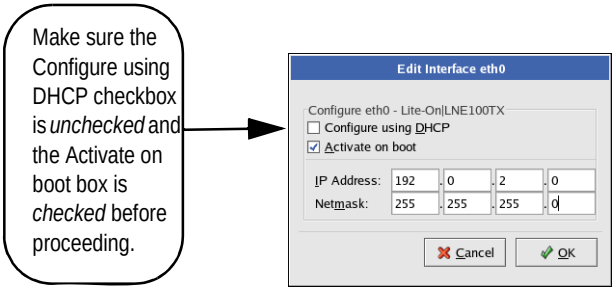


Figure 3-14. Edit Interface

29. The Picture Perfect host must have a static IP address. It does not work with DHCP.

    - Make sure to uncheck the option **Configure using DHCP** before proceeding.
    - Leave **Activate on boot** checked.

30. Provide the necessary information to configure your IP Address and Hostname for this Picture Perfect server. If you do not know what this should be, then please consult your Network Administrator.

31. Click **OK**.

    Result: You are returned to the Network Configuration screen.

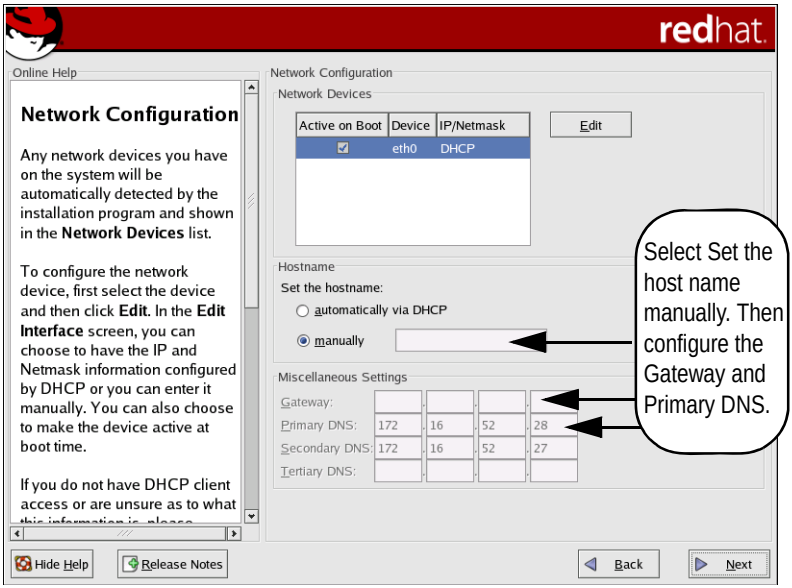

redhat.
Online Help
Network Configuration
Any network devices you have on the system will be automatically detected by the installation program and shown in the Network Devices list.
To configure the network device, first select the device and then click Edit. In the Edit Interface screen, you can choose to have the IP and Netmask information configured by DHCP or you can enter it manually. You can also choose to make the device active at boot time.
If you do not have DHCP client access or are unsure as to what
Network Configuration
Network Devices
Active on Boot
Device
IP/Netmask
Edit
eth0
DHCP
Hostname
Set the hostname:
automatically via DHCP
manually
Miscellaneous Settings
Gateway:
Primary DNS:
172 . 16 . 52 . 28
Secondary DNS:
172 . 16 . 52 . 27
Tertiary DNS:
Select Set the host name manually. Then configure the Gateway and Primary DNS.
Hide Help
Release Notes
Back
Next

Figure 3-15. Network Configuration

32. Under **Hostname**, **Set the hostname:**, select **manually**. Type the host name.

CAUTION

Do not leave this field blank, it must be set to an alphanumeric value before Picture Perfect is installed!

Keep the following in mind:

Use LOWERCASE a through z, and/or 0 through 9. Do NOT use UPPERCASE.

Use the simple machine name, such as pphost1, not the fully qualified name.

The host name may not be more than 16 characters in length.

Do not use host names containing the dash character (-).

Informix Dynamic Server 9.40 does not recognize this as a valid character and will prevent the database from starting.

Do not use host names containing the underscore character (_).

This is not a valid character in the web server running on the Picture Perfect host.

33. Under **Miscellaneous Settings**, configure the **Gateway** and the **Primary DNS**, if applicable.

NOTE

If you fail to provide a Primary DNS, an error message displays. Depending on your network environment, this could cause future problems. If you do not know what the Primary DNS should be, consult your Network Administrator.

34. When you are ready, click **Next**.

    Result: The Firewall Configuration dialog is displayed.

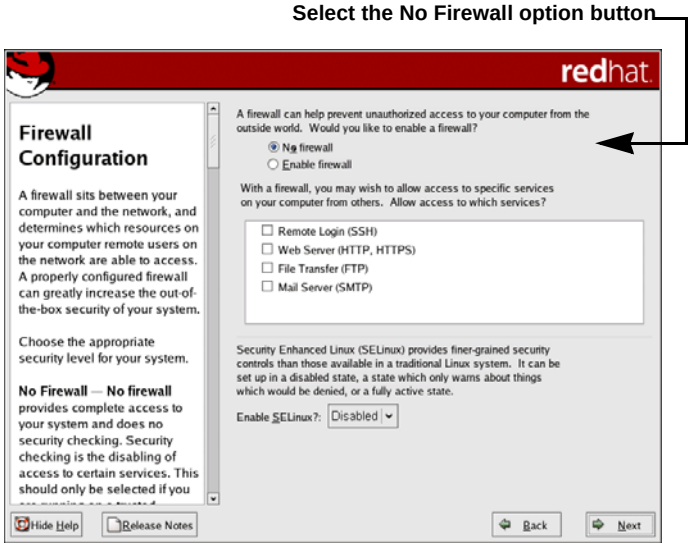

Select the No Firewall option button
redhat
Firewall Configuration
A firewall sits between your computer and the network, and determines which resources on your computer remote users on the network are able to access. A properly configured firewall can greatly increase the out-of-the-box security of your system.
Choose the appropriate security level for your system.
No Firewall — No firewall provides complete access to your system and does no security checking. Security checking is the disabling of access to certain services. This should only be selected if you
A firewall can help prevent unauthorized access to your computer from the outside world. Would you like to enable a firewall?
No firewall
Enable firewall
With a firewall, you may wish to allow access to specific services on your computer from others. Allow access to which services?
Remote Login (SSH)
Web Server (HTTP, HTTPS)
File Transfer (FTP)
Mail Server (SMTP)
Security Enhanced Linux (SELinux) provides finer-grained security controls than those available in a traditional Linux system. It can be set up in a disabled state, a state which only warns about things which would be denied, or a fully active state.
Enable SELinux?: Disabled
Hide Help
Release Notes
Back
Next

Figure 3-16. Firewall Configuration

35. Select the **No Firewall** option button.

36. Select **Disabled** for SELinux.

37. Click **Next**.

    Result: The Additional Language Support dialog is displayed.

38. Click **Proceed** to close the warning.

    Result: The Additional Language Support dialog is displayed.

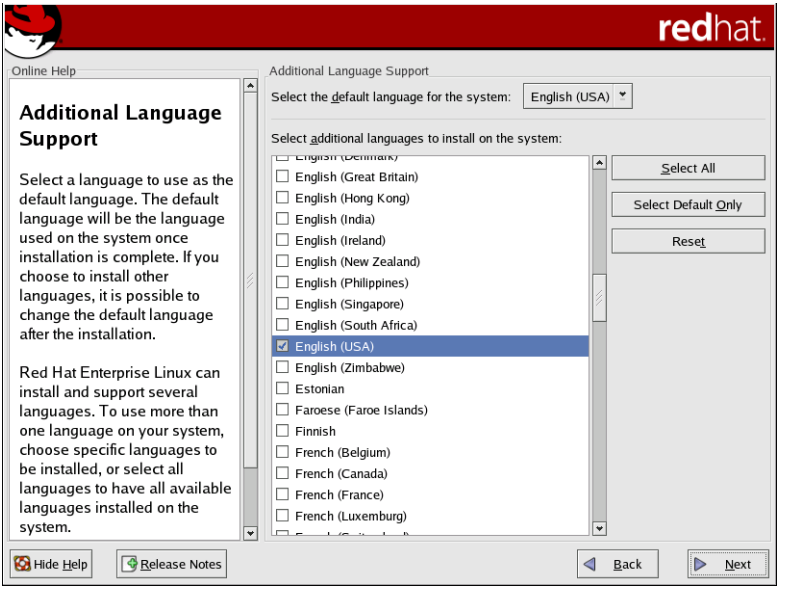

redhat
Online Help
Additional Language Support
Select the default language for the system:
English (USA)
Select additional languages to install on the system:
Select All
Select Default Only
Reset
English (Great Britain)
English (Hong Kong)
English (India)
English (Ireland)
English (New Zealand)
English (Philippines)
English (Singapore)
English (South Africa)
English (USA)
English (Zimbabwe)
Estonian
Faroese (Faroe Islands)
Finnish
French (Belgium)
French (Canada)
French (France)
French (Luxemburg)
Additional Language Support
Select a language to use as the default language. The default language will be the language used on the system once installation is complete. If you choose to install other languages, it is possible to change the default language after the installation.
Red Hat Enterprise Linux can install and support several languages. To use more than one language on your system, choose specific languages to be installed, or select all languages to have all available languages installed on the system.
Hide Help
Release Notes
Back
Next

Figure 3-17. Additional Language Support

39. In the list box for the default language for this system, choose **English (USA)**. Picture Perfect supports the following languages:

    - Arabic
    - Chinese (Simplified)
    - Chinese (Traditional)
    - French
    - Italian
    - Portuguese
    - Russian
    - Spanish

If you plan on installing CARMA in any of these languages, either now or in the future, you should install the languages on your system now. Otherwise, the operating system will have to be re-installed.

40. Click **Next**.

    Result: The **Time Zone** dialog is displayed.

redhat
Time Zone Selection
Set your time zone by selecting your computer's physical location.
On the interactive map, click on a specific city (marked by a yellow dot) and a red X appears indicating your selection.
You can also scroll through the list of locations to select your desired time zone.
You can also select the System Clock uses UTC option.(UTC, also known as GMT, allows your system to properly handle daylight
Please select the nearest city in your timezone:
Location
Description
America/Nassau
America/New_York
Eastern Time
America/Nipigon
Eastern Time - Ontario & Quebec - places th
System clock uses UTC
Hide Help
Release Notes
Back
Next

Figure 3-18. Time Zone Selection

41. Select the appropriate time zone.

42. If your time zone incorporates Daylight Savings Time, select the check box titled **System clock uses UTC.**

NOTE

If it is necessary to adjust the date/time, execute the **`dateconfig`** command after the Linux installation is complete.

43. Click **Next**.

Result: The Set Root Password dialog is displayed.

redhat
Online Help
Set Root Password
Use the root account *only* for administration. Once the installation has been completed, create a non-root account for your general use and su – to gain root access when you need to fix something quickly. These basic rules will minimize the chances of a typo or incorrect command doing damage to your system.
Set Root Password
Enter the root (administrator) password for the system.
Root Password:
Confirm:
Hide Help
Release Notes
Back
Next

Figure 3-19. Set Root Password

44. Specify a password for **`root`**, and confirm it by typing it a second time. The recommended length for the root password is greater than 12 characters, at least two of which must be alpha and one special or numeric. For example, **`2b||~2bistheQ`** is a good choice for a password.

45. Click **Next** to continue.

    Result: The **Package Installation Defaults** dialog is displayed.

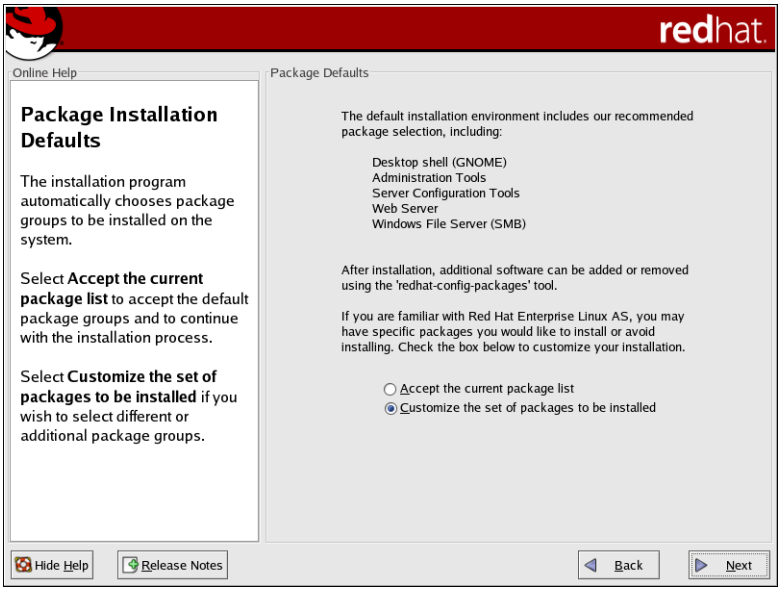

redhat
Online Help
Package Installation Defaults
The installation program automatically chooses package groups to be installed on the system.
Select Accept the current package list to accept the default package groups and to continue with the installation process.
Select Customize the set of packages to be installed if you wish to select different or additional package groups.
Package Defaults
The default installation environment includes our recommended package selection, including:
Desktop shell (GNOME)
Administration Tools
Server Configuration Tools
Web Server
Windows File Server (SMB)
After installation, additional software can be added or removed using the 'redhat-config-packages' tool.
If you are familiar with Red Hat Enterprise Linux AS, you may have specific packages you would like to install or avoid installing. Check the box below to customize your installation.
Accept the current package list
Customize the set of packages to be installed
Hide Help
Release Notes
Back
Next

Figure 3-20. Package Installation Defaults

46. If not already selected, select the check box next to **Customize the set of packages to be installed**.

47. Click **Next** to continue.

    Result: The Package Group Selection dialog is displayed.

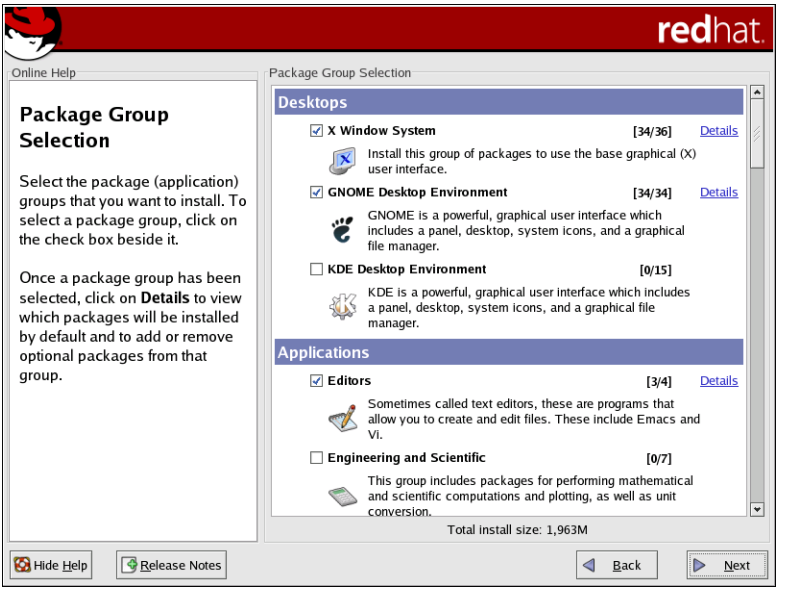

redhat
Online Help
Package Group Selection
Package Group Selection
Select the package (application) groups that you want to install. To select a package group, click on the check box beside it.
Once a package group has been selected, click on Details to view which packages will be installed by default and to add or remove optional packages from that group.
Desktops
X Window System [34/36] Details
Install this group of packages to use the base graphical (X) user interface.
GNOME Desktop Environment [34/34] Details
GNOME is a powerful, graphical user interface which includes a panel, desktop, system icons, and a graphical file manager.
KDE Desktop Environment [0/15]
KDE is a powerful, graphical user interface which includes a panel, desktop, system icons, and a graphical file manager.
Applications
Editors [3/4] Details
Sometimes called text editors, these are programs that allow you to create and edit files. These include Emacs and Vi.
Engineering and Scientific [0/7]
This group includes packages for performing mathematical and scientific computations and plotting, as well as unit conversion.
Total install size: 1,963M
Hide Help
Release Notes
Back
Next

Figure 3-21. Package Group Selection

48. Select the following packages:

    - **Desktops**: X Window System, GNOME Desktop Environment
    - **Applications**: Text-based Internet
    - **Servers**: Legacy Network Server (Click *Details*, select *Telnet-Server*.)
    - **Development**: Development Tools, X Software Development, Legacy Software Development
    - **System**: Administration Tools, Printing Support

49. Click **Next** to accept the Package Group Selections.

    Result: The **About to Install** dialog displays including a list of the media required for installation of the selected packages.

NOTE

If, for some reason, you would rather not continue with the installation process, this is your last opportunity to safely cancel the process and reboot your machine. Once you press the Next button, partitions will be written and packages will be installed. If you wish to abort the installation, you should reboot now before any existing information on any hard drive is rewritten.

To cancel this installation process, press your computer's Reset button or use the [Control]-[Alt]-[Delete] key combination to restart your machine.

50. Click **Continue** to proceed.

    Result: The installation wizard proceeds to install your system. This may take a while. The progress is displayed on the screen and you will be prompted to insert the CDs in the following order: 2, 3, 4, 1.

    You should now see a screen preparing you for the installation of Red Hat Linux. For your reference, a complete log of your installation can be found in **`/root/install.log`** once you reboot your system.

    Result: When you are done, the Congratulations dialog displays.

51. Click **Reboot** and allow the system to reboot.

NOTE

If, during the reboot process, you are prompted to change system permissions, tab to the entry labeled DO IT and press Enter.

Result: When the reboot is complete, the Welcome dialog displays.

Welcome
License Agreement
Date and Time
User Account
Sound Card
Red Hat Network
Additional CDs
Finish Setup
Welcome
There are a few more steps to take before your system is ready to use. The Red Hat Setup Agent will now guide you through some basic configuration. Please click the "Next" button in the lower right corner to continue.
Red Hat Enterprise Linux
Back
Next

Figure 3-22. Welcome

52. Click **Next** to continue.

    Result: The License Agreement dialog displays.

Welcome
License Agreement
Date and Time
User Account
Sound Card
Red Hat Network
Additional CDs
Finish Setup
License Agreement
LICENSE AGREEMENT AND LIMITED PRODUCT WARRANTY
RED HAT® ENTERPRISE LINUX® VERSION 3
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2. Intellectual Property Rights. The Software and each of its components, including the source code, documentation, appearance, structure and organization are owned by Red Hat and others and are protected under copyright and other laws. Title to the Software
Yes, I agree to the License Agreement
No, I do not agree
Back
Next

Figure 3-23. License Agreement

53. Select **Yes, I agree to the License Agreement**. Click **Next** to continue.

    Result: The Date and Time dialog displays.

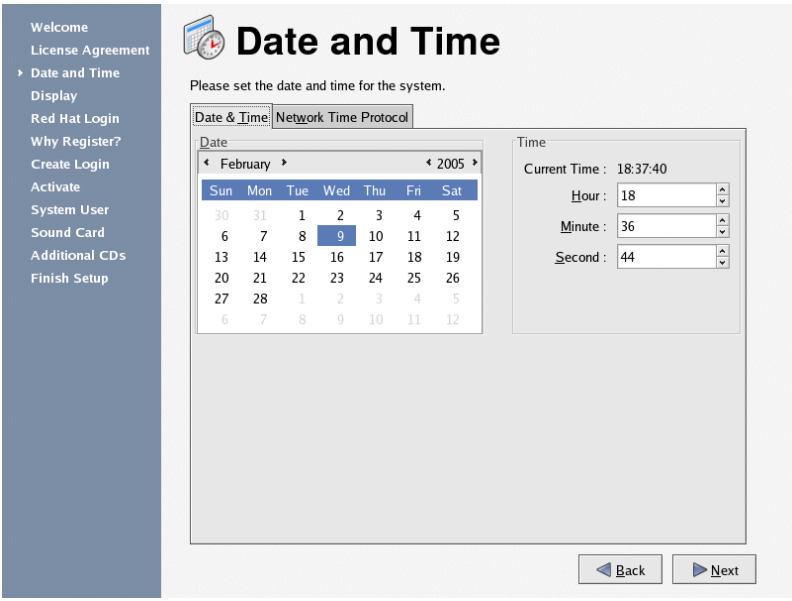

Figure 3-24. Date and Time

54. Select the current date and time. Optional: If you want the host to synchronize its clock with a remote time server, check the **Network Time Protocol** tab.

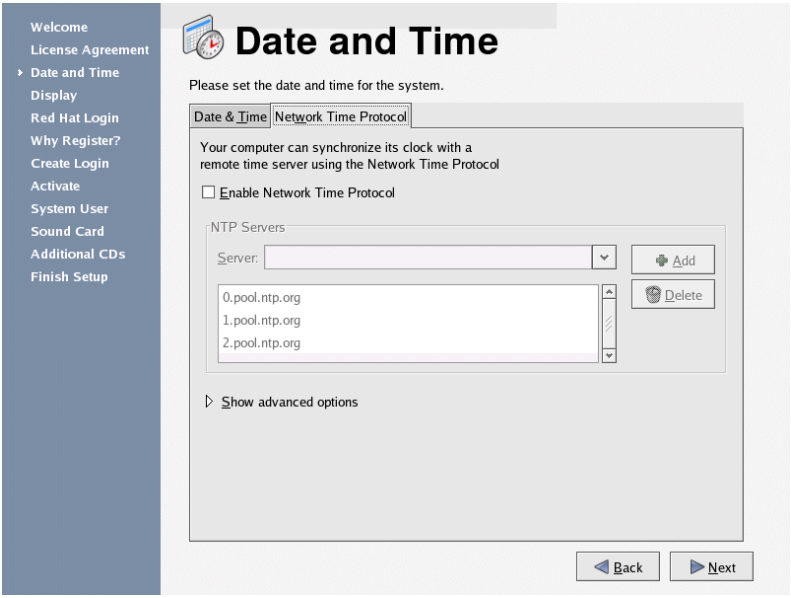

Figure 3-25. Network Time Protocol

55. Check the **Enable Network Time Protocol** checkbox and use the drop-down menu to select a time server. Click **Next** to continue.

NOTE

If it is necessary to adjust the date/time, execute the **dateconfig** command after the Linux installation is complete.

Result: The Display dialog displays.

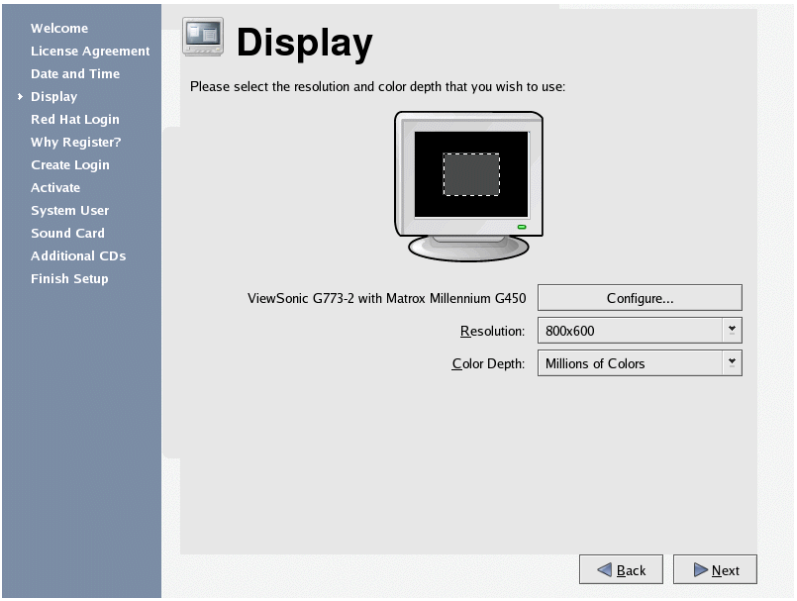

Figure 3-26. Display

56. Red Hat Enterprise Linux auto-detects your monitor and loads the correct driver. If you would like to choose another driver, click **Configure...** and browse the list of available drivers. Select the resolution of your screen and click **Next** to continue.

NOTE *The recommended resolution is: 1024 x 768.*

Result: The Red Hat Login dialog displays.

Figure 3-27. Red Hat Login

57. To register with Red Hat and provide a Red Hat login:
    - If you have already registered with Red Hat Network, enter your account information in the appropriate field. Click **Next** to continue.
    - If you have never registered, choose **Tell me why I need to register and provide a Red Hat login.** A dialog displays which allows you the option of registering at a later time.

    Result: If you provided your Red Hat login account information, the **Activate** dialog displays.

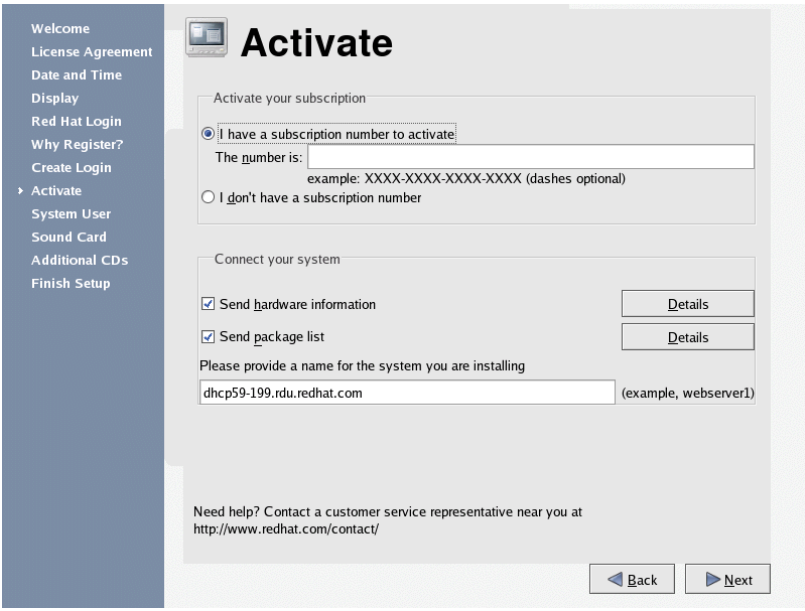

Figure 3-28. Activate

58. Enter the subscription number in the appropriate field. Otherwise, select **I do not have a subscription number**. Click **Next** to continue.

    Result: The System User dialog displays.

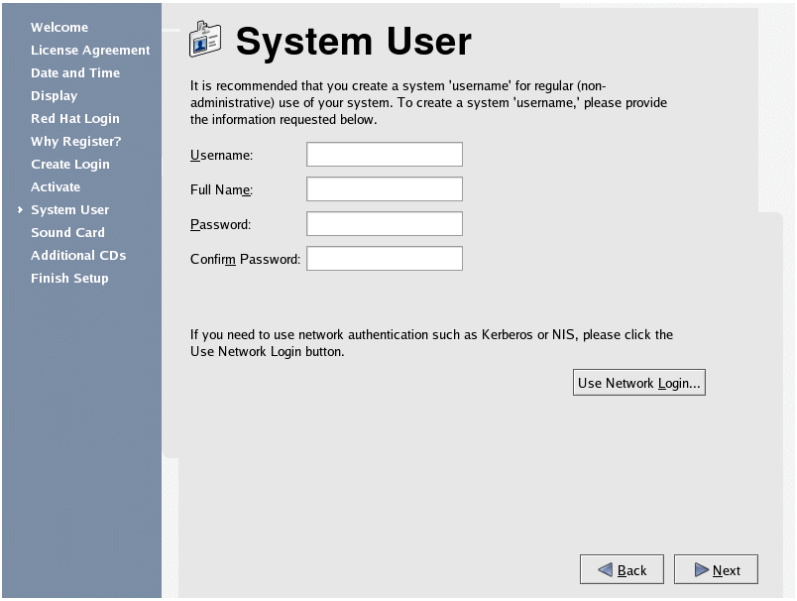

Figure 3-29. System User

59. Since a user account will be created during the installation of the Picture Perfect base package, it is not necessary to create an account now. Click **Next** to continue.

60. Ignore the warning dialog that recommends that you create a personal account. Click **Continue** to continue.

    Result: The Additional CDs dialog displays.

Figure 3-30. Additional CDs

61. There are no required add-ons for Picture Perfect 4.0. Click **Next** to continue.

    Result: The Finish Setup dialog displays.

Welcome
License Agreement
Date and Time
Display
Red Hat Login
Why Register?
Create Login
Activate
System User
Sound Card
Additional CDs
Finish Setup
Finish Setup
You have completed installation and system set up.
Unfortunately, your subscription was not activated because a valid subscription number was not supplied.
It is important to activate your subscription so you can access the services that keep your system secure and supported.
Please contact a customer service representative to help get your subscription activated. To find a representative near you, visit http://www.redhat.com/contact/
Please click the "Next" button in the lower right corner to continue.
Red Hat Enterprise Linux
Back
Next

Figure 3-31. Finish Setup

62. The set up for Red Hat Linux is now complete and you may proceed to install CARMA 4.0. Click **Next** to continue.

    Result: The Red Hat Login screen displays.

Installing CARMA

➤ **To configure the network:**

Before installing the CARMA software, you need to configure a static IP address.

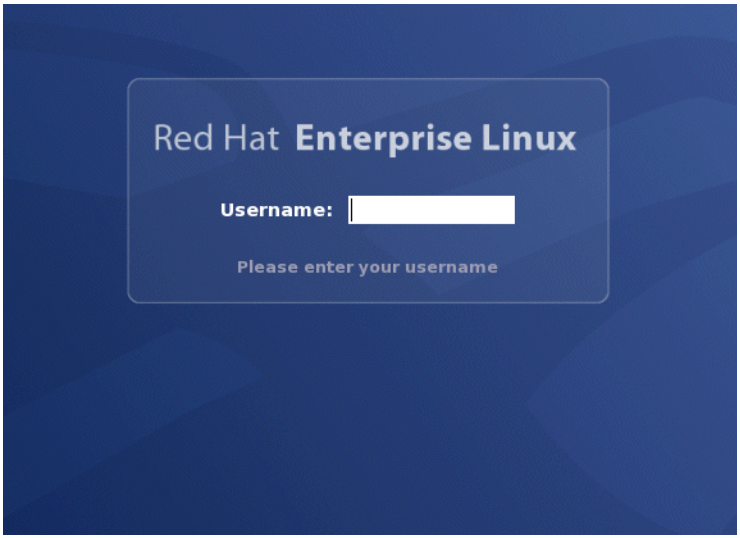

Figure 3-32. Red Hat Login Screen

1. Log on as **`root`**.

NOTE The default password is “carma1”. We strongly recommend that you change the password, using the **passwd** command.

Result: The Linux desktop displays.

Figure 3-33. Red Hat Desktop

2. From the Red Hat Main Menu, select **System Settings | Network**.

   or

   From a terminal window, type:

   `/usr/sbin/redhat-config-network`

   Result: The Network Configuration window displays.

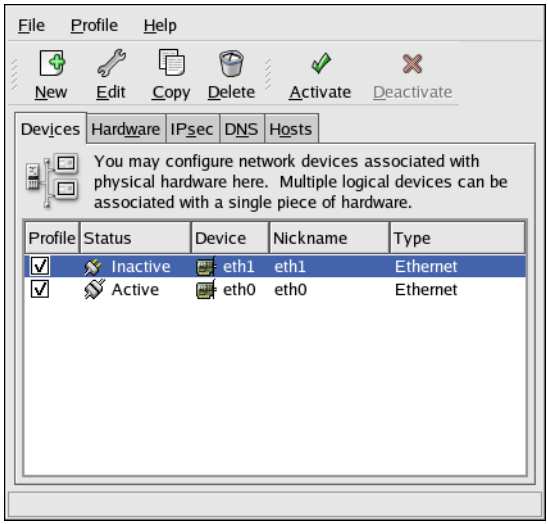

Figure 3-34. Network Configuration Window

3. If you have only one network card, only one option is listed. Double-click that option. If you have multiple network cards (wireless and wired), choose the wired device to configure first. Under **Type**. the display will show **Ethernet**.

   Result: The Ethernet Device window displays.

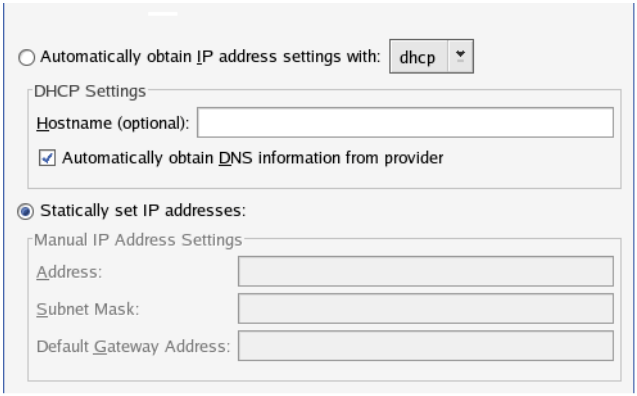

Figure 3-35. Ethernet Device Settings

4. Click **Statically set IP addresses** and complete the configuration fields with the required information.

5. Click **OK**.

   Result: You are returned to the Network Configuration window.

6. Click the **DNS** tab.

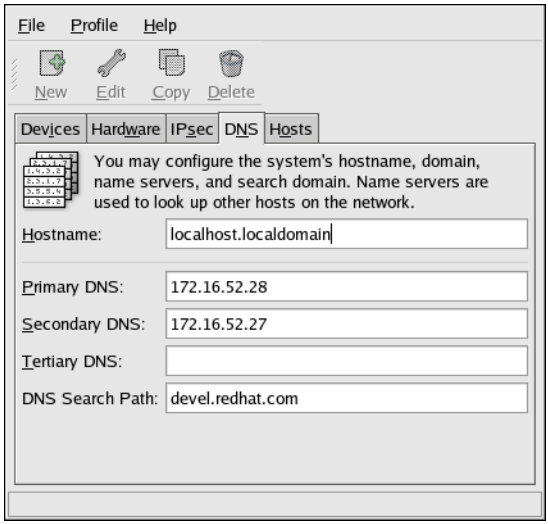

Figure 3-36. DNS Tab

7. Enter your hostname, DNS (Domain Name Servers), and DNS search path information. Be very careful when entering this information as an incorrect hostname can render your GNOME desktop unusable.

8. Click **File** | **Save**.

➤ **To include a valid domain name for SendMail:**

Modify the **`/etc/hosts`** file to include a valid domain name for Sendmail. If one is not available, you may insert the name **`local.com`** as a placeholder. For example:
`192.9.200.11 carma local.com`
Also, add the hostname of the CARMA server in

`/etc/hosts` file. For example:
`3.112.71.46 carmahost`

1. Update the Host file using one of the following methods:

   - Login as **`root`** and from a terminal window, type:
     `/usr/sbin/redhat-config-network`
   - From the Red Hat Menu, select:
     System Settings | Network.

   Result: The Network Configuration window opens.

2. Select the **Hosts** tab from Network Configuration dialog and add the appropriate entries.

For more information on how to modify the **`/etc/hosts`** file see *Appendix C - Using the vi Editor*.

3. Add the following services to the **`/etc/securetty`** file:

   ```
   rsh
   rlogin
   telnet
   rcp
   ```

4. In the vi editor, type **`/root/.rhosts`**

5. Specify the name of the server that is hosting Picture Perfect.

For example:
3.112.71.47 pictureperfecthost

➤ **To install the CARMA software:**

1. Log on as **root**.

2. Perform the following steps to open a terminal window.

   - Click the Red Hat in the lower left corner of the task bar.
   - Select **System Tools | Terminal**.

   Result: A terminal window displays.

3. Insert the CARMA CD into the CD-ROM drive. The CD mounts automatically, however if you reboot with the CD in the drive, you will need to mount the CD.

   If it is necessary to mount the CD, when the light on the CD-ROM drive stops blinking, type:

   cd / Enter
   mount /media/cdrom Enter

4. Start the installation by typing the following:

   cd /media/cdrom [Enter]
   ./install.sh [ENTER]

   Result: The installation program determines what packages are needed, installs them, and then installs the CARMA application.

5. Press **ENTER** when instructed.

   Result: Messages, similar to the following, will display:

```
Installation Script for CARMA

This installation assumes as basic
installation of Red Hat Enterprise Linux
using the standard RPM packages from the
RedHat Linux CD, and assumes you know how to
configure and administrate Linux, Apache and
Mysql.

If you have installed a custom version, or
have installed a custom Apache, PHP, or Mysql
distribution, this installation may not work.

See your GE Security  representative for more
information.

You have 23G free for the /var filesystem.
This is where the CARMA database files will be
stored.  The absolute minimum required space
free here should be around 200M for a small
Picture Perfect installation with few
transactions.  For larger Picture Perfect
systems, be sure you have at least 4 Gigabytes
of free space in this filesystem.

Press Ctrl-c to exit, or Press the Enter key
to continue...

Verifying or Installing Required Packages...

Installation starting for Redhat Enterprise
Linux WS release 4.

curl installed. Running version is
curl-7.12.1-3

apr installed. Running version is
apr-0.9.4-24.1

apr-util installed. Running version is
apr-util-0.9.4-17

httpd installed. Running version is
httpd-2.0.52-9.ent

php installed. Running version is
php-4.3.9-3.1
```

```
libc-client-2002e-8 installed. Running
version is libc-client-2002e-8

php-imap installed. Running version is
php-imap-4.3.9-3.1

php-ldap installed. Running version is
php-ldap-4.3.9-3.1

perl-DBI installed. Running version is
perl-DBI-1.40-5

mysql installed. Running version is
mysql-4.1.7-4.RHEL4.1

mysql-devel installed. Running version is
mysql-devel-4.1.7-4.RHEL4.1

mysqlclient10 installed. Running version is
mysqlclient10-3.23.58-4.RHEL4.1

mysqlclient10-devel installed. Running
version is
mysqlclient10-devel-3.23.58-4.RHEL4.1

mysql-bench installed. Running version is
mysql-bench-4.1.7-4.RHEL4.1

mysql-server installed. Running version is
mysql-server-4.1.7-4.RHEL4.1

php-mysql installed. Running version is
php-mysql-4.3.9-3.1

gd installed. Running version is gd-2.0.28-4

php-gd installed. Running version is
php-gd-4.3.9-3.1

Press Ctrl-c to exit, or Press the Enter key
to continue...

Installing Informix Client SDK

Please type no when prompted to do so

Is ClientSDK being installed along with
Informix database server version 9.x
(required to be run as user "informix")?

(yes or no)
```

6. Type **no**.

   Result: Messages similar to the following display:

```
Installation Script

Installation Script Requirements:

- A user “informix” and a group “informix”
must be known to the system.

- The product source files must have been
loaded by user root

- This installation procedure must be run by
user root.

- You must also set INFORMIXDIR to where you
would like to install the product on and make
INFORMIXDIR as your current working
directory.

This script will change the owner, group, and
mode of many of the files of this package in
this directory.

IBM/Informix-Client SDK Version 2.81.UC3
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number of users, are subject to the
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number of users exceeds the licensed number,
the excess users may be prevented from using
the software. UNAUTHORIZED USE OR COPYING MAY
SUBJECT YOU AND YOUR COMPANY TO SEVERE CIVIL
AND CRIMINAL LIABILITIES.

Extracting the message files to /tmp/install

771 blocks

Installing Messages...\n

Installing directory /opt/informix//etc

Installing directory /opt/informix//msg

Installing directory /opt/informix//msg/en_us

Installing directory
```

```
/opt/informix//msg/en_us/0333

...done installing messages

Extracting the GLS files to /tmp/install

7137 blocks

Installing directory
/opt/informix//gls/lc11/en_au

Installing directory
/opt/informix//gls/lc11/en_gb

Installing directory
/opt/informix//gls/lc11/en_us

Installing directory
/opt/informix//gls/lc11/es_es

Installing directory
/opt/informix//gls/lc11/fi_fi

Installing directory
/opt/informix//gls/lc11/fr_be

Installing directory
/opt/informix//gls/lc11/fr_ca

Installing directory
/opt/informix//gls/lc11/fr_ch

Installing directory
/opt/informix//gls/lc11/fr_fr

Installing directory
/opt/informix//gls/lc11/is_is

Installing directory
/opt/informix//gls/lc11/it_it

Installing directory
/opt/informix//gls/lc11/ja_jp

Installing directory
/opt/informix//gls/lc11/ko_kr

Installing directory
/opt/informix//gls/lc11/nl_be

Installing directory
/opt/informix//gls/lc11/nl_nl

Installing directory
/opt/informix//gls/lc11/no_no

Installing directory
```

```
/opt/informix//gls/lc11/os

Installing directory
/opt/informix//gls/lc11/pl_pl

Installing directory
/opt/informix//gls/lc11/pt_br

Installing directory
/opt/informix//gls/lc11/pt_pt

Installing directory
/opt/informix//gls/lc11/ru_ru

Installing directory
/opt/informix//gls/lc11/sk_sk

Installing directory
/opt/informix//gls/lc11/sv_se

Installing directory
/opt/informix//gls/lc11/th_th

Installing directory
/opt/informix//gls/lc11/zh_cn

Installing directory
/opt/informix//gls/lc11/zh_tw

...done installing GLS files

Extracting files from clientsdkcontent
file...

5514 blocks

Installing ClientSDK as user root...

Installing directory.

Installing directory bin

Installing directory lib

Installing directory lib/client

Installing directory lib/client/csm

Installing directory lib/esql

Installing directory lib/dmi

Installing directory lib/c++

Installing directory demo/cli

Installing directory doc

Installing directory doc/gls_api
```

```
Installing directory doc/gls_api/en_us

Installing directory doc/gls_api/en_us/0333

IBM Informix Product: IBM INFORMIX-Client SDK

Installation Directory: /opt/informix/

Performing root portion of installation of
IBM INFORMIX-Client SDK...

Installation of IBM INFORMIX-Client SDK
complete.

Installing CARMA rpm... Please wait

Please READ the installation documentation
carefully

Enter Picture Perfect HostName (shortname,
not fqdn):
```

➤ **To assign the name of the Picture Perfect host:**

1. Use the short name as opposed to the fully qualified domain name.

NOTE

If you are installing CARMA to use with a Picture Perfect Enterprise Edition system, **enter the host name of the Picture Perfect Network Host**. CARMA retrieves data from the subhosts listed in the host table of the network host.

For example, if the Picture Perfect host was called **`pphost`** and resided on the GE network, you would enter:

`pphost [ENTER],`

NOT

pphost.ge.com [ENTER]

Result: Messages similar to the following will appear on the screen:

```
Enter IP of the Picture Perfect Host:
```

2. Type the **IP address** of the Picture Perfect Host and press **ENTER**.

   Result: Messages similar to the following will appear on the screen.

```
Enter a valid Picture Perfect username
[informix]:
```

☞ This is the user name CARMA will use for the scheduled import.

3. Type the Picture Perfect username to which you want CARMA to connect when running the import and press **ENTER**.

   Result: Messages similar to the following will appear on the screen.

```
Enter the Picture Perfect username's
password [informix]:
```

4. Type the password for the username provided in the previous step and press **ENTER**.

   Result: Messages similar to the following display:

```
Hostname: pphost
IP: 3.209.17.164
PP User: informix
Password: informix
Are these correct (y/n)? [n] y
```

5. You will be asked to confirm your entries. Type y to confirm your entries.

   Result: The installation continues to make some configuration changes to the MySQL database, Apache Web Server, the PHP scripting Engine, and various configuration files. Messages similar to the following will appear:

```
INSTALLATION COMPLETE!

NOTES:

You will need to run a manual database import before
using CARMA, which can be done from the administration
page, or by typing /etc/cron.daily/carma.cron. The
import may take some time, depending on the size of
the Picture Perfect installation and number of Picture
Perfect hosts.
```

➤ **To enable remote access to your CARMA server:**

In addition to the notes above, you will need to add the IP name and address of your CARMA host to your client workstations's hosts file which are located in the following directories:

On Windows XP:

```
C:\windows\hosts
```

On Windows NT or Windows 2000:

```
C:\winnt\system32\drivers\etc\hosts
```

➤ **Configure your system for Sendmail:**

You need to edit the **.conf** file to include the IP address for the mail server and set the domain name.

1. Log in to the CARMA server as **root**.

2. Using the vi editor, edit the file as follows:

```
nameserver      <ipaddress>
domain          <domainname>
search          <carmahostname>
```

For information on how to modify the **/etc/resolv.conf** file, see *Appendix C - Using the vi Editor*.

➤ **To install the CARMA software on the Picture Perfect host:**

1. Unmount the CD by typing:

```
cd / [ENTER]
umount /dev/cdrom [ENTER]
```

2. Remove the CD-ROM from the drive and insert it into the drive on the Picture Perfect host to which you are connecting.

3. Log into the Picture Perfect host as the root user.

Result: A # prompt will display.

4. Type:

```
cd / [ENTER]
```

5. If you have a Linux host, skip to step 6. Otherwise, create a CD directory by typing the following:

AIX UnixWare

```
mkdir CD [ENTER]
```

6. Mount the CD-ROM drive by typing:

AIX

```
mount -r -v cdrfs /dev/cd0 /CD[ENTER]
```

UnixWare

```
mount -r -F cdfs /dev/cdrom/* /CD[ENTER]
```

Linux

```
mount /media/cdrom [ENTER]
```

7. Type:

AIX

```
tar -xvf /CD/aix/aix.tar [ENTER]
```

UnixWare

```
tar -xvf /CD/uw/uw.tar [ENTER]
```

Linux

```
tar -xvf /media/cdrom/linux/linux.tar
[ENTER]
```

8. Type:

```
cd /tmp [ENTER]
```

9. Type:

```
sh install_carma.sh [ENTER]
```

Result: Messages similar to the following will appear on your screen:

```
What is the short name of the CARMA
host:
```

10. Type the hostname of the CARMA server and press **ENTER**.

Result: Messages similar to the following will appear on your screen:

```
What is the IP address of the CARMA host:
```

11. Type the IP address of the CARMA server and press **ENTER**.

    Result: Messages similar to the following will appear on your screen:

```
Enter username to connect from CARMA
[suggest Informix]:
```

☞ This is the user name CARMA will use for real time queries.

12. Type **informix** and press **ENTER**.

    Result: Messages similar to the following will appear on your screen:

```
Change password for Informix (y/n):
```

13. Type Y or N and press **ENTER**. If you select Y, you will be prompted for a new password.

    Result: Messages similar to the following will appear on your screen:

```
Installation complete. You may now
review log details in
/tmp/carmatools.log
```

NOTE

If you are installing CARMA to use with a Picture Perfect Enterprise Edition system, repeat steps 1 through 12 in this section for each host/subhost.

14. Installation is now complete.

➤ **To import the Picture Perfect database:**

The database import utility runs automatically once a day. However, upon installation, you may want to manually run the import so that you can immediately begin using your CARMA server to generate reports.

1. Determine the size for your CARMA database, keeping in mind the current Picture Perfect database size as well as future requirements. To determine the current size of your Picture Perfect database, open a new terminal window on the Picture Perfect host and type:

   ```
   currdates [ENTER]
   ```

   Result: A screen similar to the following will display the various history tables along with the start and end dates.

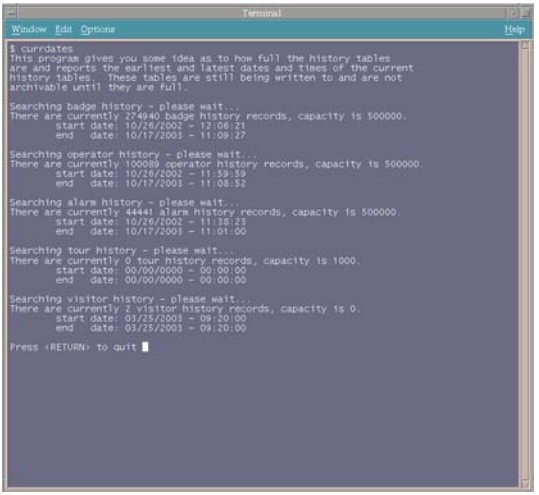

Terminal
Window Edit Options
Help
$ currdates
This program gives you some idea as to how full the history tables
are and reports the earliest and latest dates and times of the current
history tables. These tables are still being written to and are not
archivable until they are full.
Searching badge history - please wait...
There are currently 274940 badge history records, capacity is 500000.
start date: 10/26/2002 - 17:06:21
end date: 10/17/2003 - 11:09:27
Searching operator history - please wait...
There are currently 100089 operator history records, capacity is 500000.
start date: 10/26/2002 - 11:59:59
end date: 10/17/2003 - 11:08:52
Searching alarm history - please wait...
There are currently 44441 alarm history records, capacity is 500000.
start date: 10/26/2002 - 11:38:23
end date: 10/17/2003 - 11:01:00
Searching tour history - please wait...
There are currently 0 tour history records, capacity is 1000.
start date: 00/00/0000 - 00:00:00
end date: 00/00/0000 - 00:00:00
Searching visitor history - please wait...
There are currently 2 visitor history records, capacity is 0.
start date: 03/25/2003 - 09:20:00
end date: 03/25/2003 - 09:20:00
Press <RETURN> to quit

Figure 3-37. Example: currdates

2. The amount of data to keep is set by default in the **carma.conf** file at 4 months. Use the **vi** editor to edit the **carma.conf** file to reflect the amount of data you wish to store, as determined in step 1. For information on editing this file, see *Appendix C - Using the vi Editor*.

3. To manually run the import, log in to the CARMA server as **root** and type the following command:

   /etc/cron.daily/carma.cron [ENTER]

   Result: Depending on the size of your Picture Perfect database, the amount of time it takes to complete the import will vary. Do NOT interrupt the import mid-way and do

NOT run multiple instances of the import program simultaneously. If you receive the following message, it means you have a Picture Perfect Host which is not a redundant system:

```
Not redundant
```

NOTE If the import process is interrupted, you must remove the following file prior to trying again:

```
/var/tmp/carma.lock
```

➤ **To log in and set up your administrator and any operator account (required):**

NOTE A database must have been imported prior to attempting to add an operator.

1. Point your browser to the CARMA server:

   ```
   http://carma.ge.com/carma/
   ```

   where carma.ge.com is the name of the CARMA server you just configured.

2. Log in using the following authentication information:

   Username: **admin**
   Password: **admin**

3. Once logged in, click **System Administration**.

4. Under **Advanced Settings**, select **Configure**.

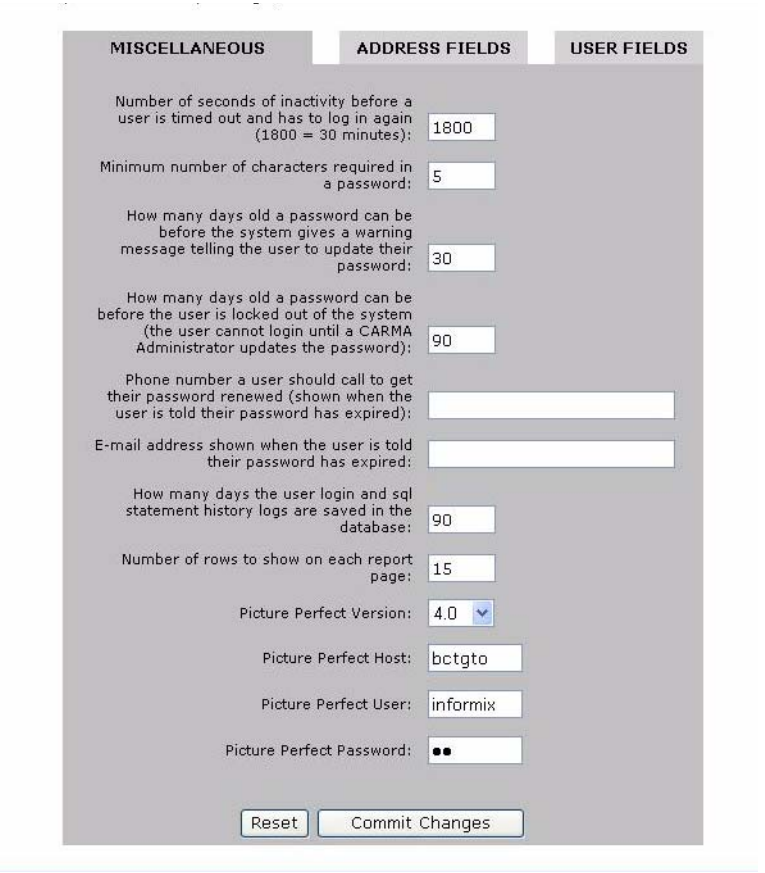

MISCELLANEOUS
ADDRESS FIELDS
USER FIELDS
Number of seconds of inactivity before a user is timed out and has to log in again (1800 = 30 minutes):
1800
Minimum number of characters required in a password:
5
How many days old a password can be before the system gives a warning message telling the user to update their password:
30
How many days old a password can be before the user is locked out of the system (the user cannot login until a CARMA Administrator updates the password):
90
Phone number a user should call to get their password renewed (shown when the user is told their password has expired):
E-mail address shown when the user is told their password has expired:
How many days the user login and sql statement history logs are saved in the database:
90
Number of rows to show on each report page:
15
Picture Perfect Version:
4.0
Picture Perfect Host:
bctgto
Picture Perfect User:
informix
Picture Perfect Password:
Reset
Commit Changes

Figure 3-38. System Configuration Window

5. Use this form to specify the following information:

- Administrator's phone number
- Administrator's e-mail
- Picture Perfect version
- Picture Perfect host name
- Picture Perfect user name
- Picture Perfect password

When complete, click **Commit Changes**.

6. Click **Home**, then click **Change Your Password** and specify a new password for **Admin**.

7. Once you have changed the password, you will have to log in again using the new password. You may add additional users by returning to the **System Administration** menu. Remember that you must select the departments or facilities that each user has permission to view. If you omit this step and generate a report, you will not see any departments in the list box and no reports will run properly.

NOTE

To verify the version of CARMA that you are running, type:

```
rpm -q carma [ENTER]
```

➤ **To log into CARMA from a remote system:**

1. If you want to log into CARMA from a remote system, for example the Picture Perfect host, you will need to add the user login and password to the CARMA host.

2. On the CARMA host, type:

   adduser <*login*> [ENTER]
   passwd <*login*> [ENTER]

3. From the remote system, type:

   telnet <*login*> [ENTER]

Removing CARMA

➤ **To remove the CARMA software:**

1. Log in as **root.**

   Result: A # prompt displays.

2. To remove the CARMA software, type:

   rpm -e carma [ENTER]

NOTE By default, this uninstall does not remove the CARMA database.

If you reply Yes when asked if you want to delete the database, the entire CARMA database will be removed and any history no longer available on the Picture Perfect host will be permanently lost.

If you reply No, the CARMA application will be removed, however, the database which contains your Picture Perfect history, will still exist on the CARMA server.

Result: Messages similar to the following will appear on the screen:

```
root@localhost /]# rpm -e carma
cannot remove /var/www/html/carma/pix -
directory not empty
cannot remove
/var/www/html/carma/includes - directory
not empty
removal of /tmp/mysql-carma-user.sql
failed: No such file or directory
[root@localhost /]#
```

3. The CARMA software is now removed. If you chose not to remove the CARMA database and decide to remove it at a later time, you can do so by typing the following command.

   mysqladmin drop carma [ENTER]

Upgrading Carma from a Previous Version

Chapter 4

Introduction

If you are installing CARMA for the first time, skip this chapter. This new version of CARMA, for Picture Perfect 4.0, supports filtering history data based on Time Zone context. It also supports database partitioning by Facility. In order to do so, the system must have the same three date/time contexts (UTC, Device and Host) for each history record, also it must be able to associate each history record with a Facility. During the upgrade process, the system will add a Facility to all existing badge history records. The Facility used will be the Facility of the Badge associated with the transaction. Database partitioning by Department is still supported as it was in previous releases, so the new Facility field need not be used for permission purposes unless you choose to do so.

NOTE You will need two blank tapes to perform the upgrade.

The following steps required to upgrade from CARMA 3.0 to CARMA 4.0 are included in this chapter:

NOTE The following steps can also be followed to upgrade from CARMA 2.76 to CARMA 4.0.

- ❒ Back up your existing CARMA 3.0 database
  See "Back up your existing CARMA 3.0 database" on page 4.3
- ❒ Install RedHat Enterprise Linux on your CARMA server
  See "Installing Red Hat Linux" on page 3.2
- ❒ Install CARMA 4.0
  See "Installing CARMA" on page 3.39
- ❒ Restore your CARMA 3.0 database
  See "Install RedHat Enterprise Linux on your CARMA server" on page 4.4
- ❒ Run the CARMA Database Upgrade Utility
  See "Run the CARMA Database Upgrade Utility" on page 4.6

NOTE During the following procedures, when prompted for the CARMA password, type:

`carma [ENTER]`

Back up your existing CARMA 3.0 database

➤ **Before performing the upgrade, backup your existing CARMA database by performing the following steps:**

1. Log in as **root**.

2. To create a disk file for your existing database backup, type:

Linux Version 7.3

```
mysqldump -u carma -p --opt carma >
/var/<filename> <ENTER>
```

Linux Version 7.1, Enterprise 3

```
mysqldump --opt carma > /var/<filename>
<ENTER>
```

where **<*filename*>** is the name of the backup file. For example: **carmabk101003**

3. Insert a tape and type:

```
tar -cvf/dev/st0 /var/<filename> <ENTER>
```

Install RedHat Enterprise Linux on your CARMA server

Refer to "Installing Red Hat Linux" on page 3.2.

Install CARMA 4.0

Refer to "Installing CARMA" on page 3.39.

Restore your CARMA 3.0 database

CAUTION Before restoring your database, you need to increase value of **`Months`** to keep in **`carma.conf`** or the **`import`** will drop data older than 4 months.

1. To increase the value, using the VI editor, type:

   ```
   vi /etc/carma.conf
   ```

2. Adjust the value as necessary and exit the VI editor.

3. Once you have successfully completed the installation of RedHat Linux and CARMA, and adjusted the number of months of data to import, restore the database by typing:

   ```
   cd /var <ENTER>
   tar -xvf /dev/st0 <ENTER>
   ```

4. Start the restore procedure by typing the following:

   mysql <ENTER>

   Result: Messages similar to the following display:

```
Welcome to the MySQL monitor. Commands end with ; or
\g.
Your MySQL connection id is 2454 to server version:
4.1.7-Max

Type 'help;' or '\h' for help. Type '\c' to clear the
buffer.
mysql>
```

5. Type:

   use carma; <ENTER>

   Result: Messages similar to the following display:

```
Reading table information for completion of table and
column names. You can turn off this feature to get a
quicker startup with -A

Database changed
mysql>
```

6. Type: **source<filename>**
   where **filename** is the absolute path of the converted file.

   For example:
   source /var/carmaconv101003;

Run the CARMA Database Upgrade Utility

➤ **To upgrade your old database to CARMA 4.0:**

1. Log in as root and type:

   `/usr/local/carma/carma_db_upgrade.sh`

   Result: The CARMA Database Upgrade Utility displays.

```
CARMA DATABASE UPGRADE UTILITY

NOTES:

This script will upgrade old CARMA database to support
new PP versions. Normally, it will update the database
schema.The upgrade may take some time,depending on the
size of the existing database. Please make sure to
take database backup before opting for upgrade
options. You will not be able to revert database back
to its original state after upgrade.

Used space in /var file system is 195MB
Free space in /var file system is 761MB
Minimum free space required in /var for DB upgrade is
12 MB

M E N U

(NOTE : CARMA version should be same as that of
Picture Perfect else import would not happen
properly!!)

1) Upgrade CARMA Database to CARMA 4.0

2) Upgrade CARMA Database to CARMA 2.0

3) Cancel


Please Select one choice (1, 2, 3):1
```

2. Type **1** to upgrade to CARMA 4.0.

   Result: You will be asked to confirm:

```
You would not be able to revert back changes. Do you
really want to upgrade. (y/n)? [n] y
```

3. Type **y** to continue.

   Result: Messages similar to the following display:

```
carma_user table is uptodate. Upgrade not required

carma_facility_permissions table is uptodate. Upgrade
not required

Upgrading carma_schedule table to support CARMA 4.0
database schema

carma_schedule table is now upto date

carma_schedule_operator table is uptodate. Upgrade
not required

Upgrading carma_saved_queries table to support CARMA
4.0 database schema

carma_saved_queries table is now upto date

Upgrading carma_sys_config table & meaning tables to
support CARMA 4.0 database schema

carma_sys_config table & meaning tables are now upto
date

Upgrading alarm_history table to support CARMA 4.0
database schema

alarm_history table is now upto date

Upgrading alarm_historytmp table to support CARMA 4.0
database schema

alarm_historytmp table is now upto date

Upgrading alarm_history_resolved table to support
CARMA 4.0 database schema
```

```
alarm_history_resolved table is now upto date

Upgrading badge_history table to support CARMA 4.0
database schema

badge_history table is now upto date

Upgrading badge_historytmp table to support CARMA 4.0
database schema

badge_historytmp table is now upto date

Upgrading badge_history_resolved table to support
CARMA 4.0 database schema

badge_history_resolved table is now upto date

Upgrading operator_his table to support CARMA 4.0
database schema

operator_his table is now upto date

Upgrading operator_histmp table to support CARMA 4.0
database schema

Operator Historytmp Table is now upto date
```

NOTE Depending on your database size, the following step make take up to one hour to complete.

4. Run the **`import`** utility by typing:

   `/etc/cron.daily/carma.cron`

   Result: If you have verbose mode enabled, messages similar to the following display. See page A.7 for information on enabling verbose mode.

```
Trying to connect to carmatest

Trying to get PP version information at carmatest
```

```
We're = 4.0 (for plevel)
We're = 4.0 (for plevel)
If this is greater than 0, it's not the first import:
91
Not redundant!
Connected to carmatest
Top Level Tables:
Starting fac_profile
Finished fac_profile
22 Records total.
++++++++++++++++++++++
Starting person_type
Finished person_type
30 Records total.
++++++++++++++++++++++
Starting table_desc
Finished table_desc
236 Records total.
++++++++++++++++++++++
Starting field_desc
Finished field_desc
2791 Records total.
++++++++++++++++++++++
Starting meaning
Finished meaning
2791 Records total.
++++++++++++++++++++++
Starting xact_desc
```

```
Finished xact_desc
2836 Records total.
++++++++++++++++++++++
Starting badgests
Finished badgests
2840 Records total.
++++++++++++++++++++++
Starting operator
Finished operator
2874 Records total.
++++++++++++++++++++++
Starting host
Finished host
2874 Records total.
++++++++++++++++++++++
Starting facility_operator
Finished facility_operator
2874 Records total.
++++++++++++++++++++++
Starting facility
Finished facility
2882 Records total.
++++++++++++++++++++++
Starting department
Finished department
2885 Records total.
++++++++++++++++++++++
Starting category
```

```
Finished category
2982 Records total.
++++++++++++++++++++++
Sub Host Tables:
Starting person_category
Finished person_category
12354 Records total.
++++++++++++++++++++++
Starting person_user
Finished person_user
12764 Records total.
++++++++++++++++++++++
Starting person
Finished person
16333 Records total.
++++++++++++++++++++++
Starting area_category
Finished area_category
17041 Records total.
++++++++++++++++++++++
Starting terminal
Finished terminal
17057 Records total.
++++++++++++++++++++++
Starting input_group
Finished input_group
17402 Records total.
++++++++++++++++++++++
```

```
Starting inputs
Finished inputs
17705 Records total.
++++++++++++++++++++++
Starting alarm
Finished alarm
17743 Records total.
++++++++++++++++++++++
Starting door
Finished door
18015 Records total.
++++++++++++++++++++++
Starting badge
Finished badge
21583 Records total.
++++++++++++++++++++++
Starting reader
Finished reader
21842 Records total.
++++++++++++++++++++++
Starting area
Finished area
22147 Records total.
++++++++++++++++++++++
Starting micro
Finished micro
22172 Records total.
++++++++++++++++++++++
```

```
Special Tables:
Starting badge_historytmp
Finished badge_historytmp
22172 Records total.
++++++++++++++++++++++
Starting badge_history
Finished badge_history
22290 Records total.
++++++++++++++++++++++
Starting operator_histmp
Finished operator_histmp
22290 Records total.
++++++++++++++++++++++
Starting operator_his
Finished operator_his
24107 Records total.
++++++++++++++++++++++
Starting alarm_historytmp
Finished alarm_historytmp
24107 Records total.
++++++++++++++++++++++
Starting alarm_history
Finished alarm_history
25485 Records total.
++++++++++++++++++++++

Records Imported: 25485
Fixing up tables, this may take some time:
```

```
Badge Cleaning...
Running the scripts on the existing database
Done sending commands, please wait...
before time subtract
Data Transfer took 18 seconds!
before div record count
That's 1415 records / second!
after div record count
Indexing Took 172 seconds!
after sub
Total Time 190
at end
[root@carmadev Carma-4.0.0-4]# ls
```

Result: Installation and restore is now complete. Proceed to Chapter 5.

Getting Started

Chapter 5

Introduction

This chapter covers the following topics:

- Logging In
- Logging Out
- Main Menus and Submenus
- Badge Event History and Generated Reports
- Alarm Event History and Generated Reports
- Personnel Records and Generated Reports
- Operator History and Generated Reports
- Monitor Hosts and Micros
- System Administration

Logging In

The login procedure for CARMA is similar to any other Web site login. Start up Internet Explorer and enter the URL of the CARMA host.

For example: **`http://carmahost/carma/`**

The first parameter is the name of the CARMA host and the second is the name of the CARMA software.

Enter your **Username** and **Password** assigned by the system administrator, and click **Continue**.

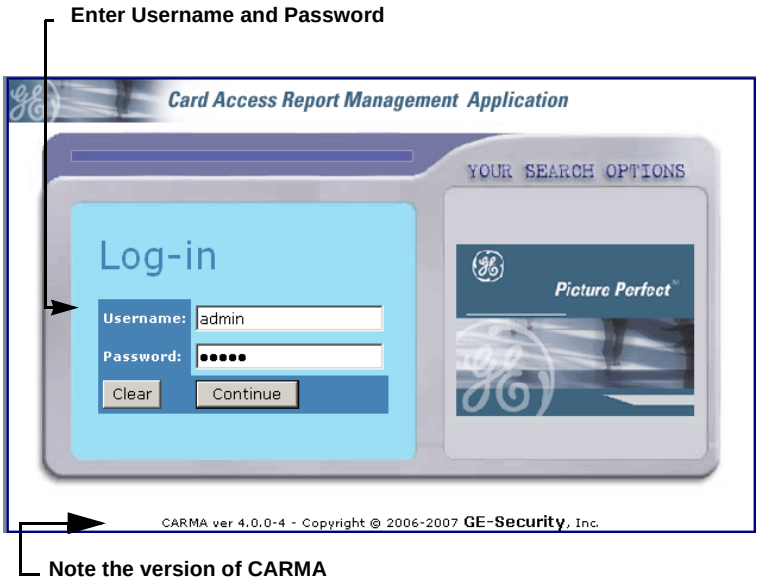


Figure 5-1. CARMA Login Screen

At the bottom of the Login screen, the version of CARMA that you are running is displayed.

NOTE

Your password will expire periodically and must be changed. You will be prompted to change your password before it expires. Additionally, an e-mail message will be sent when your password is within 10 days of expiration. Failure to change it will cause you to be locked out of the system until the administrator resets your password. See Change Your Password on page 5.6.

Logging Out

Logging out is not required by CARMA, but is a good idea for security reasons. Click the **Logout** button at the top of the main page to exit CARMA whenever you need to exit the program. The system automatically logs out an inactive user after a predetermined time (set by the system administrator).

Main Menus and Submenus

The main menu is a horizontal window frame entitled **Card Access Report Management Application**.

When you log in, the CARMA (Card Access Report Management Application displays at the top of the window (See CARMA Main Screen on page 5.5). Menu choices (search options) appear on the right side. Additionally you can:

- Change your password
- Delete Saved Queries
- Customize

The submenus appear on the right side. To display a menu, click the line of text representing the submenu. Note that menu items are dynamic based upon the operator's permissions. So, not all of the menu features displayed here may be present for another operator, if their assigned permissions do not allow access to that specific menu item.

For example, most user level operators such as a department manager would not normally be permitted to access the system administration menus or the operator history menus, since those functions would not generally apply to their needs.

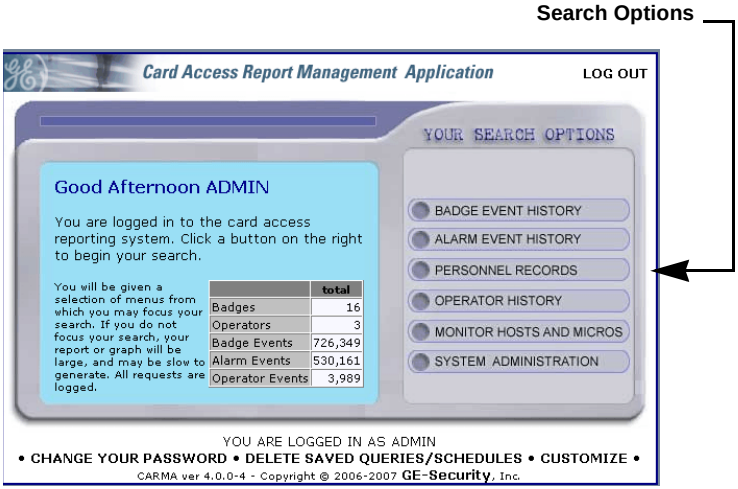

Search Options
Card Access Report Management Application
LOG OUT
YOUR SEARCH OPTIONS
Good Afternoon ADMIN
You are logged in to the card access reporting system. Click a button on the right to begin your search.
You will be given a selection of menus from which you may focus your search. If you do not focus your search, your report or graph will be large, and may be slow to generate. All requests are logged.
total
Badges 16
Operators 3
Badge Events 726,349
Alarm Events 530,161
Operator Events 3,989
BADGE EVENT HISTORY
ALARM EVENT HISTORY
PERSONNEL RECORDS
OPERATOR HISTORY
MONITOR HOSTS AND MICROS
SYSTEM ADMINISTRATION
YOU ARE LOGGED IN AS ADMIN
• CHANGE YOUR PASSWORD • DELETE SAVED QUERIES/SCHEDULES • CUSTOMIZE •
CARMA ver 4.0.0-4 - Copyright © 2006-2007 GE-Security, Inc.

Figure 5-2. CARMA Main Screen

Changing Your Password

At the bottom of the main login window, your login name is listed. The number of days until your password expires is also listed as well as the version of CARMA that you are running. Additionally you can:

- Change your password
- Delete Saved Queries
- Customize

➤ **To change your password:**

1. Click **Change Your Password**, and a new page appears prompting for a new password.

2. When finished, click **Commit Change**. The system records the changes and returns you to the **Main Menu**.

Figure 5-3. Change Your Password

Deleting Queries

You can also delete previously saved queries. Previously saved queries are reports that are saved for later use.

➤ **To delete a saved query:**

1. At the bottom of the main menu page, click **Delete Saved Queries**. A new menu appears. Using a list box, you can view all previously saved queries.

2. If you would like to delete a query, choose the name of that query and then click **Delete This Saved Query**.

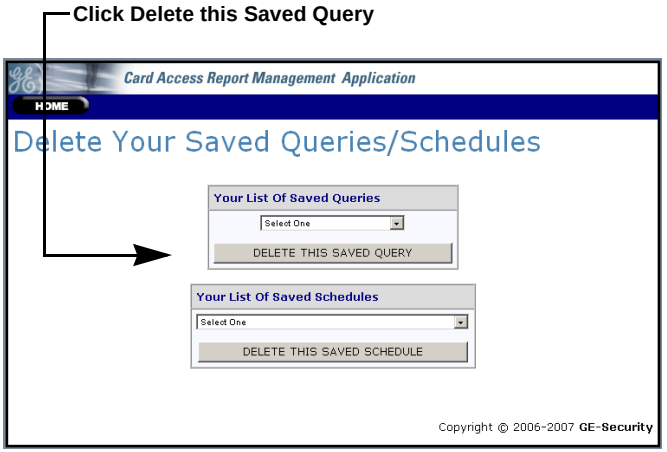


Figure 5-4. Delete Your Saved Queries

Another page displays and asks if you are sure you want to delete this query.

- If you are sure click **Yes**.
- If not click **No**.

If you click **Yes**, you are returned to the prior page to confirm that you have successfully

deleted that query. If you click **No**, you are returned to the prior page, but no reports will have been deleted.

You can also delete previously saved schedules. Previously saved schedules are those reports which have been scheduled to be sent at recurring intervals to selected operators.

Deleting Schedules

You can also delete previously saved schedules. Previously saved schedules are reports that are schedules to be run at specified times.

➤ **To delete a saved schedule:**

1. At the bottom of the main menu page, click **Delete Saved Queries** to display the **Delete Your Saved Queries** page. A list box at the bottom of the page contains all previously saved schedules.

2. Choose the name of the schedule you wish to delete and then click **Delete This Saved Schedule** . Another page will display and ask if you are sure you want to delete this schedule.

3. If you are sure click **Yes**; if not click **No**. If you click **Yes**, you are returned to the prior page to confirm that you have successfully deleted that schedule. If you click **No**, you are returned to the prior page, but no schedules will have been deleted.

Customizing Your Window Colors

You can customize your window colors in CARMA by clicking on **Customize** at the bottom of the screen on the **Main Menu**. A new page appears, containing a list box of available color schemes. Choose the preferred scheme and then click **Select**. Your screen color will change accordingly. CARMA uses cascading style sheets for color schemes, which may be customized with corporate color schemes and logos if desired. See your system administrator for additional color schemes that might be available.

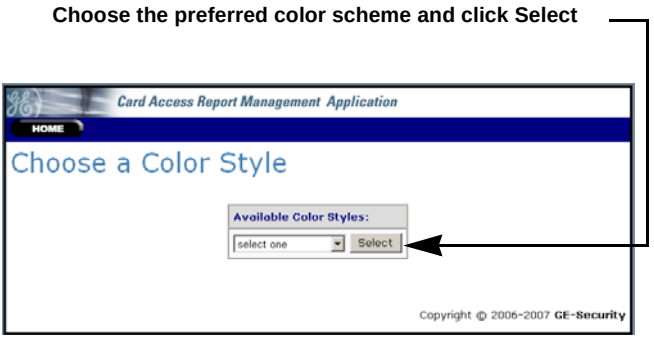


Figure 5-5. Choose a Color Style

Badge Event History

The **Badge Event History Search** allows you to obtain information regarding which doors a specific badge has opened within a certain time period. For example, you could use this feature

to generate a report of the doors, on which an employee's badge was used, from January 1, 2000 through March 12, 2000.

This function can be accessed by choosing **Badge Event History** from the main page of CARMA.

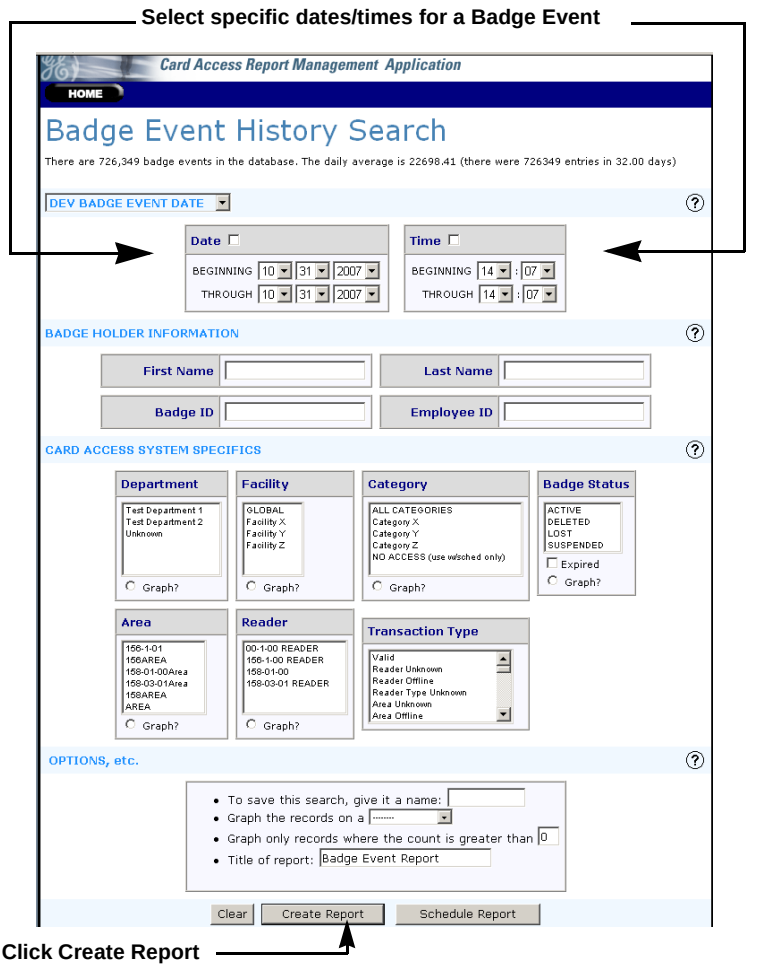


Figure 5-6. Badge Event History Search

➤ **To select the time zone in which the report data is to be displayed:**

1. Click **DEV BADGE EVENT DATE**.

2. Select either **Dev, HOST, or UTC** to specify a context of either Device, Host, or Coordinated Universal time for the report data.

➤ **To search badge history for a specific time period:**

1. Use the check boxes next to **Date** and **Time** in the first section of this page entitled **Badge Event Date**.

2. Start by selecting the **Dates** you want to included in the report. If you would like to narrow the search further, you can also enter specific times.

3. Scroll to the bottom of the screen and click **Create Report**.

➤ **If you need a report on a certain employee's badge:**

1. You may also search badge history by **Badge ID#**, **Employee ID #**, **Last Name,** or **First Name.** The fields are not case-sensitive, so upper case and lower case characters are treated the same. **Badge ID#** or **Employee ID#** produces the most accurate results, as there may be several different employees with the same first or last names.

2. Enter the information you choose to use in the specified fields which are found in the **Badge Holder Information** section.

3. After entering the information, scroll down to the bottom of the page and click **Create Report**. This displays a complete badge event history for that particular badge.

4. You may also use both the **Badge Event Date** and the **Badge Holder Information** sections to narrow your search. Enter the information needed in both sections and click **Create Report** at the bottom of the page.

5. You also have the option of choosing from the **Card Access System Specifics**. In this area, which is found in the third section on the **Badge Event History** search page, you can choose selections under **Department, Facility**, **Category**, **Badge Status**, **Area**, **Reader,** and **Transaction Type** to narrow

your search. A menu from which no selections have been made will not be applied to the search category.

For example, if you do not select any of the entries under **Category,** all options under **Category** are considered for the purpose of the search. Holding down the **CTRL** key while clicking on submenu items allows multiple selections within that submenu as well as the ability to deselect an item.

6. If at any time you are entering information, have made an error, and would like to clear the screen, click **Clear** at the bottom of the page and the information you have entered is cleared.

➤ **To graph your selections in the Card Access System Specifics section:**

1. Choose at least two of the selections under the same heading. For example, choose **Active** and **Deleted**.

   You cannot graph more than one group of selections at a time. For example, if you choose to graph **Active** and **Deleted** under the **Badge Status** heading you cannot also graph selections under the **Category** heading.

NOTE

The Card Access System Specifics should not be used on their own. Instead, it should be used in conjunction with either the Badge Holder Information section and/or the Badge Event Date section. It is used to further narrow these two types of searches.

2. Click **Graph?** under that group of selections.

3. After you have made your selections, click **Graph?**. Choose which type of graph you would like in the **Options** box at the bottom of the page. Your graph options are **Pie**, **Line**, **Column** or **Bar** graph. If you do not choose a type of graph to use, the standard report format is generated instead.

   If you have inadvertently chosen to graph selections, you must scroll to the bottom of the page and click **Clear** to remove the graph button that you had selected.

➤ **To choose how you would like the report to list badge events:**

Note at the bottom of the **Badge Event History** page is a box entitled **Options, etc**.

- You may elect to give the report a name so that you can run the same report again later.
- If you previously chose to graph your report, you may select the graph type.
- If you previously chose to graph your report, you may elect to include only those

records where the count is greater than a number of your choosing.

- You may also change or append the default report title when it is generated by changing the text in the **Title of Report** text box.

➤ **To schedule a recurring report:**

Schedule reports allows you to create a report based on specific search criteria and then schedule the report to be sent to selected operators on a recurrent basis. The scheduled report will automatically be sent to those operators every week on the scheduled day and time. The reports are sent as a zipped .html file attachment.

1. Enter the desired search criteria for the report, and instead of **Create Report**, click **Schedule Report**. The **Schedule Recurring Reports** page will appear.

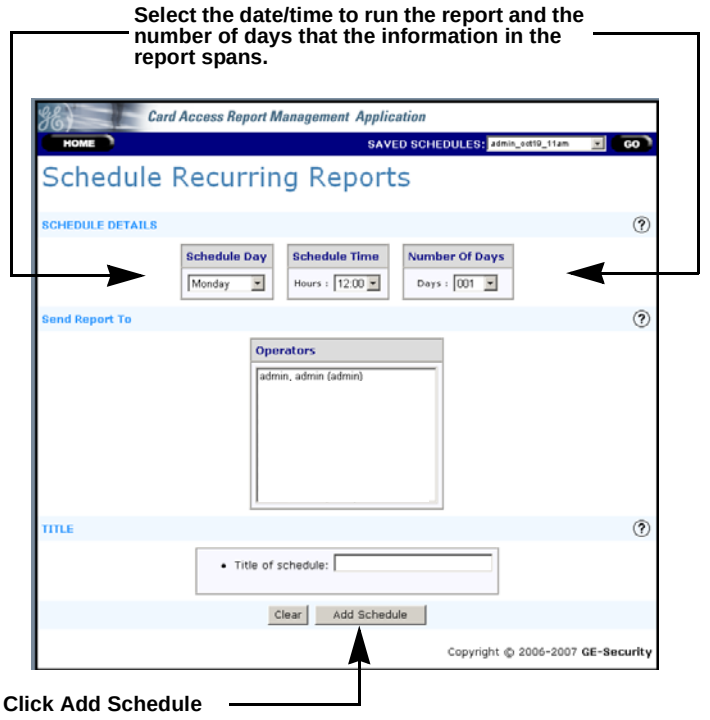


Figure 5-7. Schedule Recurring Reports

2. Select the schedule day and schedule time that you want to send the report to selected operators.

3. Select the number of days that the report covers. For example, if you want data for the past 24 hours, select 1 and if you want data for the past week, select 7. The maximum number of days from which to include data is 365.

4. Go to the **Send Report To** section and select a list of operators to whom you want to send reports. Holding down the **CTRL** key while clicking on submenu items allows multiple selections within that submenu as well as the ability to deselect an item.

5. Enter the report title in the **TITLE** section and then click **Add Schedule** to add this schedule. Click **Clear** button to remove the selections.

NOTE A scheduled report cannot be saved if:

- Any graph options are selected.
- The title is left blank.
- Another scheduled report with the same title has been created by the same login.
- Date option is selected.

The Generated Report Page

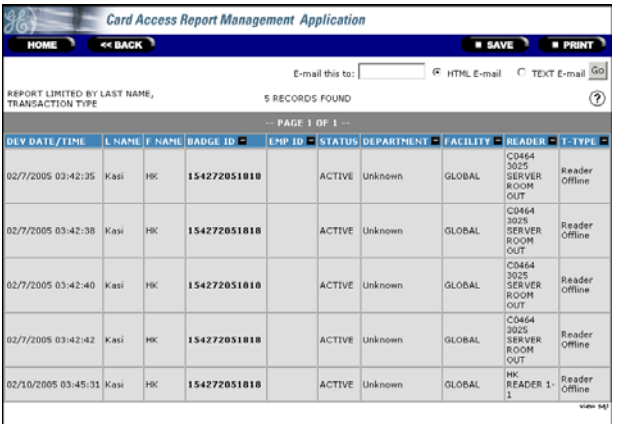

Card Access Report Management Application
HOME
<< BACK
SAVE
PRINT
E-mail this to:
HTML E-mail
TEXT E-mail
Go
REPORT LIMITED BY LAST NAME, TRANSACTION TYPE
5 RECORDS FOUND
-- PAGE 1 OF 1 --
DEV DATE/TIME
L NAME
F NAME
BADGE ID
EMP ID
STATUS
DEPARTMENT
FACILITY
READER
T-TYPE
02/7/2005 03:42:35 Kasi HK 154272051818 ACTIVE Unknown GLOBAL C0464 3025 SERVER ROOM OUT Reader Offline
02/7/2005 03:42:38 Kasi HK 154272051818 ACTIVE Unknown GLOBAL C0464 3025 SERVER ROOM OUT Reader Offline
02/7/2005 03:42:40 Kasi HK 154272051818 ACTIVE Unknown GLOBAL C0464 3025 SERVER ROOM OUT Reader Offline
02/7/2005 03:42:42 Kasi HK 154272051818 ACTIVE Unknown GLOBAL C0464 3025 SERVER ROOM OUT Reader Offline
02/10/2005 03:45:31 Kasi HK 154272051818 ACTIVE Unknown GLOBAL HK READER 1-1 Reader Offline

Figure 5-8. Badge Event Report

➤ **To navigate the generated report page:**

1. The number of records that particular report contains is listed at the top of that report. If a report has multiple pages, you can move to the next page in the report by clicking **Next**.

2. Click **End** to move to the last page of the report.

3. Click **Back** to return to the query page that you used to create the report.

4. Click **Home** to return to the CARMA main page.

➤ **To print any of the above reports:**

1. Create the report and, when the report displays, go to the top of the page on the right side and click **Print**.

   The report is formatted so that all returned rows from the query appear on a single page. You may then sort the report by column headers as explained below.

2. Click **Print** to send the report to your local printer.

3. Click **Back** to return to the report page.

➤ **To save the reports:**

1. Create the report and, when the report displays, go to the top of the page on the right side and click **Save**.

   The report is saved as a text file and may be imported into a desktop application. If you are using Microsoft Excel, the file is imported as a Microsoft Excel spreadsheet. Please note that you will have to convert the **BID** (Badge ID) column to a real number format, instead of the scientific number format to which it defaults.

2. On the report page, you can sort the report by clicking the column headers. Click twice on a column header in the report to change the sort order.

For example, if the report is sorted with the latest events first, click **Date** and it will be sorted with the earliest events first.

3. Click **Date** again and the report displays the latest events first.

4. If you would like the report to be sorted in alphabetical order by name, instead of sorting by date, click the **Name** column. Click **Date** to sort the report by date order.

➤ **To view User Badge information and photos:**

1. Create the report and, when the report displays, click on the Badge ID of the user whose information and photo, you wish to view.

   Result: A screen similar to the following will display:

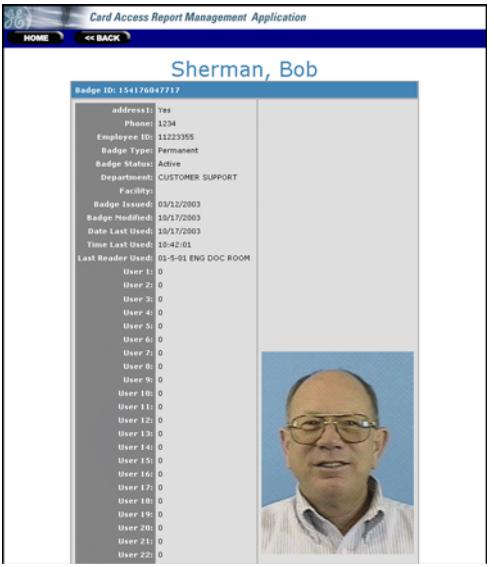


Figure 5-9. Badge ID Information and Photo

2. Click **Back** to return to the report page.

➤ **To e-mail any of above reports:**

1. Create the report. When the report is on the screen, go to the top of the page on the right side and enter an e-mail address in the **E-mail this to** box.

2. Select the **HTML** option to send e-mail in HTML format or select **TEXT** to send in pipe delimited format. The file will be sent as a zipped attachment.

3. Click **Go**. A report will be sent to the specified e-mail address.

➤ **To obtain help with selected sections:**

1. Along the right side of the **Badge Event History** page, the ?s (question marks) appear next to each section.

2. Click the **?** and a window displays information pertaining to the selected section.

3. Click **Close** to close this window.

Alarm Event History

The **Alarm Event History** search allows you to retrieve information about all alarms that have occurred in a specific date range and/or time frame. You access this feature by clicking on **Alarm Event History** on the main page of CARMA.

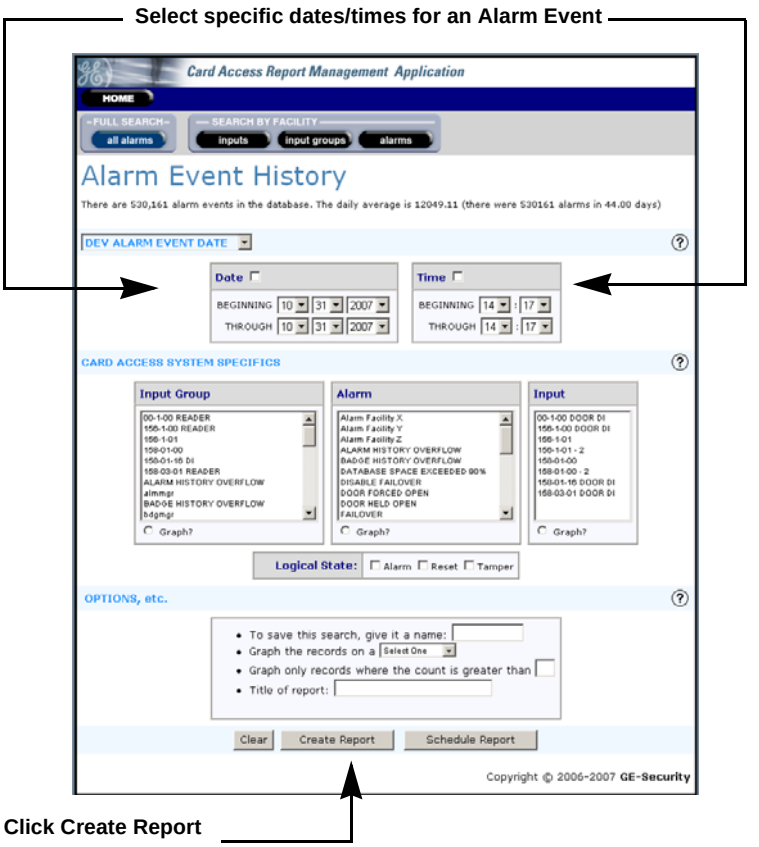


Figure 5-10. Alarm Event History Search

➤ **To select the time zone in which the report data is to be displayed:**

1. Click **DEV ALARM EVENT DATE**.

2. Select either **Dev, HOST, or UTC** to specify a context of either Device, Host, or Coordinated Universal time for the report data.

➤ **To retrieve alarm information:**

1. Choose the specific dates and/or times for which you would like to generate a report, from the first section of this page entitled **Alarm Event Date**.

2. Use the list boxes in this section. Scroll down to the bottom of the page and click **Create Report**.

➤ **To narrow the search further, note the second section entitled Card Access System Specifics, where you will find the headings Input Group, Alarm, Input, and Logical State. Then:**

1. Make selections under the **Input Group, Alarm**, **Input**, and **Logical State** sections to limit your search to include those specific options.

2. Choose your selections from these headings by clicking on the selection. Then, scroll to the bottom of the page and click **Create Report**.

3. Holding down the **CTRL** key while selecting submenu items allows for multiple selections within that submenu.

   A menu from which no selections have been made will not be applied to the search category. For example, if you do not select any of the entries under **Alarm,** all options under **Alarm,** are considered in the search.

➤ **To generate the reports by facility:**

1. At the top of the page, under **Search by Facility**, select **Inputs**, **Input Groups**, or **Alarms**. When you choose one of these options, a new screen displays.

2. Under **Card Access Systems Specifics** there is a **Facility** heading next to the heading of either **Alarm**, **Input** or **Input Groups**, depending on which option you chose. Select the desired options under these new headings.

3. Select the logical state of the alarm: **Alarm**, **Reset**, or **Tamper**.

4. Click **Create Report**.

➤ **To choose how you would like the report to list badge events:**

Note at the very bottom of the **Alarm Event History** page is a box entitled **Options, etc**.

- You may elect to give the report a name so that you can run the same report again later.
- If you previously chose to graph your report, you may select the graph type.
- If you previously chose to graph your report, you may elect to include only those records where the count is greater than a number of your choosing.
- You may also change or append the default report title when it is generated by changing the text in the **Title of Report** text box.

➤ **To graph your selections in the Card Access System Specifics section:**

1. Choose at least two of the selections under the same heading. For example, choose **Door Forced Open** and **Door Held Open**.

   You cannot graph more than one group of selections at a time. For example, if you choose to graph **Door Forced Open**, **Door Held Open** and **Invalid Badge** under the **Alarm** heading, you cannot also graph selections under the **Input** heading.

2. Click **Graph?** under that group of selections.

3. After you have made your selections, click **Graph?**. Choose which type of graph you would like in the **Options, etc** box at the bottom of the page. Your graph options are **Pie**, **Line**, **Column** or **Bar** graph. If you do not choose a type of graph to use, the standard report format is generated instead.

   If you have inadvertently chosen to graph selections, you must scroll to the bottom of the page and click **Clear** to remove the graph button that you had selected.

➤ **To schedule a recurring report:**

Schedule reports allows you to create a report based on specific search criteria and then send the report to selected operators on a recurrent basis. The scheduled report will automatically be sent to those operators every week on the scheduled day and time. The reports are sent as a zipped .html file attachment

1. Enter the desired search criteria for the report, and instead of **Create Report**, click **Schedule Report**. The **Schedule Recurring Reports** page will appear.

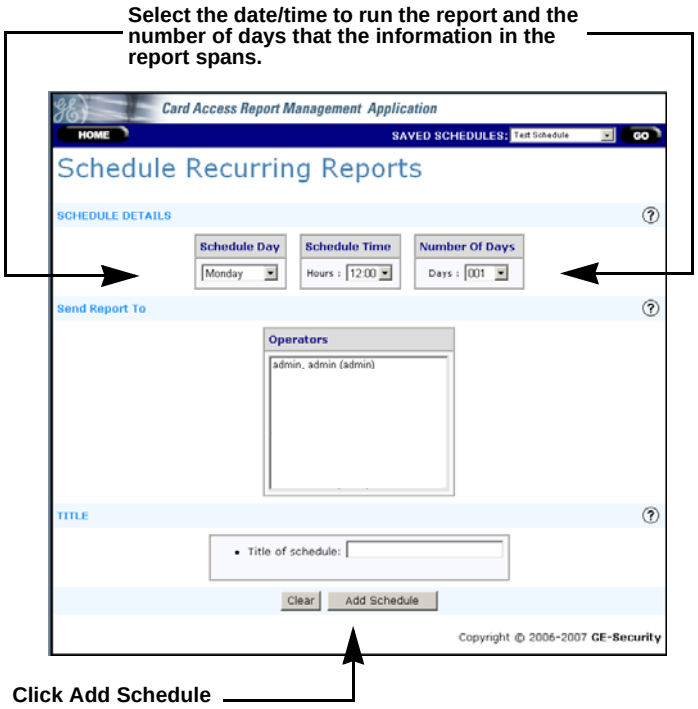


Figure 5-11. Schedule Recurring Reports

2. Select the schedule day and schedule time that you want to send the report to selected operators.

3. Select the number of days that the report covers. For example, if you want data for the past 24 hours, select 1 and if you want data for the past week, select 7. The maximum number of days from which to include data is 365.

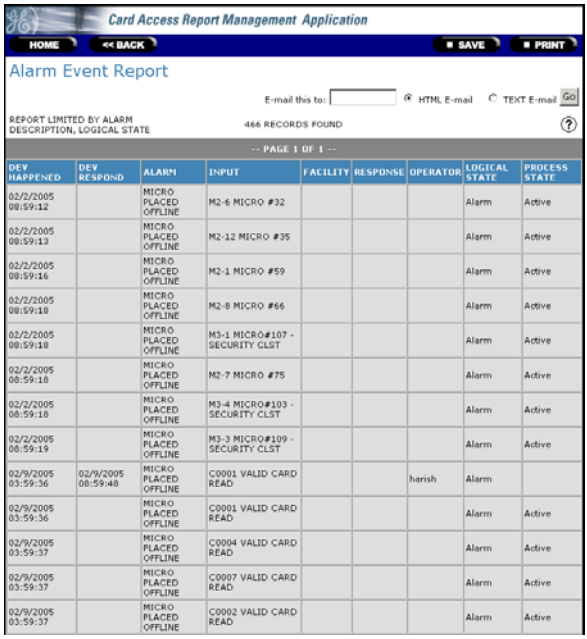
4. Go to the **Send Report To** section and select a list of operators to whom you want to send reports. Holding down the **CTRL** key while clicking on submenu items allows multiple selections within that submenu as well as the ability to deselect an item.

5. Enter the report title in the **TITLE** section and then click **Add Schedule** to add this schedule. Click **Clear** button to remove the selections.

NOTE A scheduled report cannot be saved if:

- Any graph options are selected
- The title is left blank
- Another scheduled report with the same title has been created by the same login.
- Date option is selected

The Generated Report Page



DEV HAPPENED	DEV RESPOND	ALARM	INPUT	FACILITY	RESPONSE	OPERATOR	LOGICAL STATE	PROCESS STATE
02/2/2005 08:59:12		MICRO PLACED OFFLINE	M2-6 MICRO #32				Alarm	Active
02/2/2005 08:59:13		MICRO PLACED OFFLINE	M2-12 MICRO #35				Alarm	Active
02/2/2005 08:59:16		MICRO PLACED OFFLINE	M2-1 MICRO #59				Alarm	Active
02/2/2005 08:59:18		MICRO PLACED OFFLINE	M2-8 MICRO #66				Alarm	Active
02/2/2005 08:59:18		MICRO PLACED OFFLINE	M3-1 MICRO#107 - SECURITY CLST				Alarm	Active
02/2/2005 08:59:18		MICRO PLACED OFFLINE	M2-7 MICRO #75				Alarm	Active
02/2/2005 08:59:18		MICRO PLACED OFFLINE	M3-4 MICRO#103 - SECURITY CLST				Alarm	Active
02/2/2005 08:59:19		MICRO PLACED OFFLINE	M3-3 MICRO#109 - SECURITY CLST				Alarm	Active
02/9/2005 03:59:36	02/9/2005 08:59:48	MICRO PLACED OFFLINE	C0001 VALID CARD READ			harish	Alarm	
02/9/2005 03:59:36		MICRO PLACED OFFLINE	C0001 VALID CARD READ				Alarm	Active
02/9/2005 03:59:37		MICRO PLACED OFFLINE	C0004 VALID CARD READ				Alarm	Active
02/9/2005 03:59:37		MICRO PLACED OFFLINE	C0007 VALID CARD READ				Alarm	Active
02/9/2005 03:59:37		MICRO PLACED OFFLINE	C0002 VALID CARD READ				Alarm	Active

Figure 5-12. Alarm Event History Report

➤ **To navigate the generated report page:**

1. The number of records that particular report contains is listed at the top of that report. If a report has multiple pages, you can move to the next page in the report by clicking **Next**.

2. Click **End** to move to the last page of the report.

3. Click **Back** to return to the query page that you used to create the report.

4. Click **Home** to return to the CARMA main page.

➤ **To print any of the above reports:**

1. Create the report and, when the report displays, go to the top of the page on the right side and click **Print**.

   The report is formatted so that all returned rows from the query appear on a single page. You may then sort the report by column headers as explained below.

2. Click **Print** to send the report to your local printer.

3. Click **Back** to return to the report page.

➤ **To save the reports:**

1. Create the report and, when the report displays, go to the top of the page on the right side and click **Save**.

   The report is saved as a text file and may be imported into a desktop application. If you are using Microsoft Excel, the file is imported as a Microsoft Excel spreadsheet.

2. On the report page, you can sort the report by clicking the column headers. Click twice

on a column header in the report to change the sort order.

For example, if the report is sorted with the latest events first, click **Happened** and it will be sorted with the earliest events first.

3. Click **Happened** again and the report displays the latest events first.

4. If you would like the report to be sorted in alphabetical order by name, instead of sorting by date, click the **Alarm** column. Click **Happened** to sort the report by date order.

➤ **To e-mail any of above reports:**

1. Create the report. When the report is on the screen, go to the top of the page on the right side and enter an e-mail address in the **E-mail this to** box.

2. Select the **HTML** option to send e-mail in HTML format or select **TEXT** to send in pipe delimited format. The file will be sent as a zipped attachment.

3. Click **Go**. A report will be sent to the specified e-mail address.

➤ **To obtain help with selected sections:**

1. Along the right side of the **Alarm Event History** page, the ?s (question marks) appear next to each section.

2. Click the **?** and a window displays information pertaining to the selected section.

3. Click **Close** to close this window.

Personnel Records

The **Personnel Records** Search allows you to retrieve specific information about an employee's badge status, type and usage. To access this feature, click **Personnel Records** on the main page of CARMA.

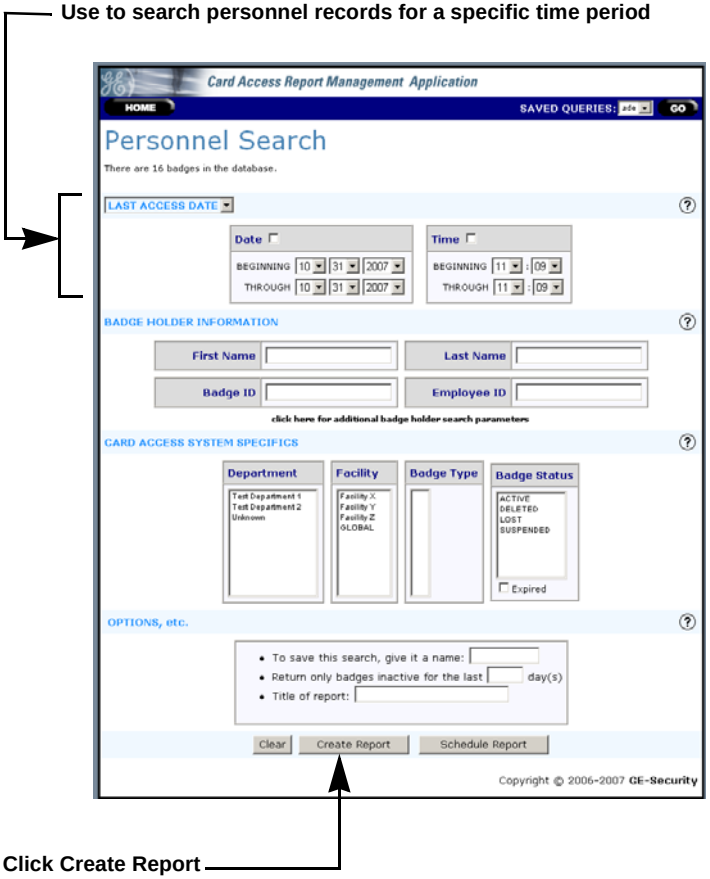


Figure 5-13. Personnel Search

➤ **To search personnel records for a specific time period:**

1. Use the check box next to **Date** and **Time** in the first section of this page to determine selection criteria (such as **Last Access Date**).

2. Start by selecting the dates you want to include in the report by using the list box. If you would like to narrow the search further, you can also enter in specific times by using the list box.

3. Scroll to the bottom of the screen and click **Create Report**.

➤ **To search personnel records by Badge ID#, Employee ID #, Last Name of Employee or First Name of Employee if you need to generate a report on a certain employee's badge:**

1. Enter the information you choose to use in the specified field, which is found in the second section of this page entitled **Badge Holder Information**.

   Badge ID# or **Employee ID#** produces the most accurate results, as there may be several different employees with the same first or last names.

2. Scroll down to the bottom of the page and click **Create Report**. This displays personnel information.

3. Narrow your search by using both of the above mentioned searches together. Enter the needed information under **Date/Time** and **Badge Holder Information** and then scroll to the bottom of the page and click **Create Report**.

4. You also have the option of choosing from the **Card Access System Specifics**. In this area, found in the third box on the **Personnel Records** page, you can choose selections under **Department**, **Facility, Badge Type,** and **Badge Status** to narrow your search. A menu from which no selections have been made will not be applied to the search category.

   For example, if you do not select any of the entries under **Department,** all options under **Department** are considered for the purpose of the search.

5. Press the **CTRL** key while clicking on submenu items to allow for multiple selections within that submenu.

NOTE

The Card Access System Specifics should not be used alone but, instead, should be used in conjunction with the **Date/Time** section and/or the **Badge Holder Information** section. It is used to narrow these two types of searches down further.

➤ **To choose a certain number of days worth of badge inactivity for the report:**

1. Note at the very bottom of the **Personnel Records** page is a box entitled **Options, etc**.

   - You may elect to give the report a name so that you can run the same report again later.
   - For example, to see how many badges have not been used for the last 180 days, enter **`180`** in the field. You may further narrow this search by selecting items from **Badge Status** and/or **Badge Type**.
   - You may also change or append the default report title for the report when it is generated by changing the text in the box marked **Title of Report**.

2. If at any time you have made an error while entering information and would like to clear the screen, click **Clear** at the bottom of the page and the information you have entered is cleared.

➤ **To schedule a recurring report:**

Schedule reports allows you to create a report based on specific search criteria and then schedule the report to be sent to selected operators on a recurrent basis. The scheduled report will automatically be sent to those operators every week on the scheduled day and time. The reports are sent as a zipped .html file attachment

1. Enter the desired search criteria for the report, and instead of **Create Report**, click **Schedule Report**. The **Schedule Recurring Reports** page will appear.

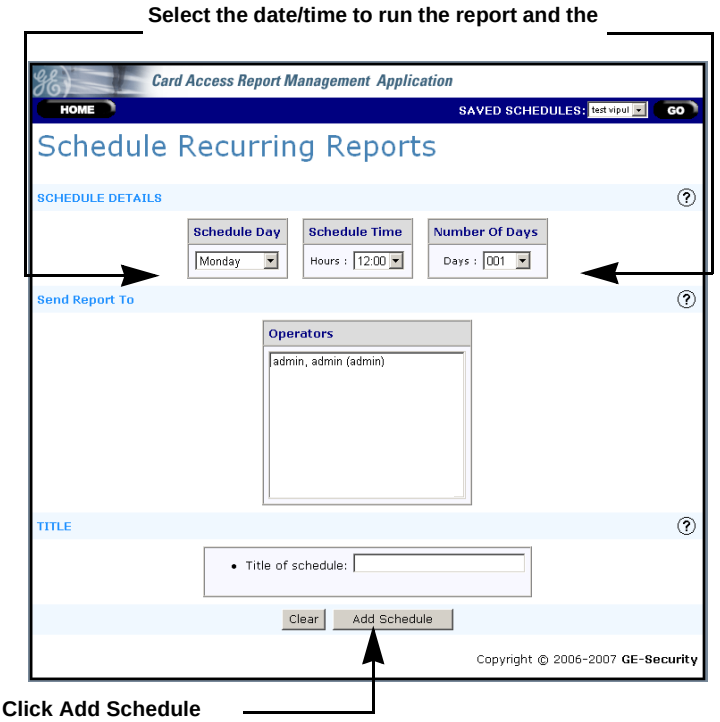


Figure 5-14. Schedule Recurring Reports

2. Select the schedule day and schedule time that you want to send the report to selected operators.

3. Select the number of days that the report covers. For example, if you want data for the past 24 hours, select 1 and if you want data for the past week, select 7. The maximum number of days from which to include data is 365.

NOTE

Only those records with a date/time that falls in the date/time span requested (**Number of Days**) will be included on a scheduled report. For example, if a badge has never been used (has **Most Recent Access** empty), it will never appear on a scheduled Personnel report that uses **Last Access Date** as date criteria.

4. Go to the **Send Report To** section and select a list of operators to whom you want to send reports. Holding down the **CTRL** key while clicking on submenu items allows multiple selections within that submenu as well as the ability to deselect an item.

5. Enter the report title in the **TITLE** section and then click **Add Schedule** to add this schedule. Click **Clear** button to remove the selections.

NOTE

A scheduled report cannot be saved if:

- The title is left blank
- Another scheduled report with the same title has been created by the same login.
- Date option is selected

The Generated Report Page

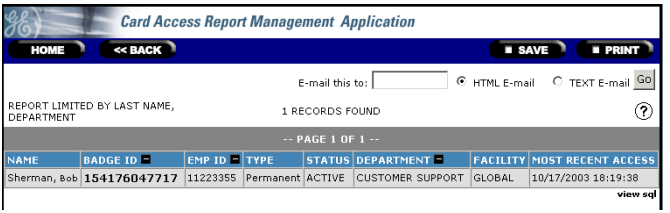


Figure 5-15. Personnel Report

➤ **To navigate the generated report page:**

1. The number of records that particular report contains is listed at the top of that report. If a report has multiple pages, you can move to the next page in the report by clicking **Next**.

2. Click **End** to move to the last page of the report.

3. Click **Back** to return to the query page that you used to create the report.

4. Click **Home** to return to the CARMA main page.

➤ **To print any of the above reports:**

1. Create the report and, when the report displays, go to the top of the page on the right side and click **Print**.

The report is formatted so that all returned rows from the query appear on a single page. You may then sort the report by column headers as explained below.

2. Click **Print** to send the report to your local printer.

3. Click **Back** to return to the report page.

➤ **To save the reports:**

1. Create the report and, when the report displays, go to the top of the page on the right side and click **Save**.

   The report is saved as a text file and may be imported into a desktop application. If you are using Microsoft Excel, the file is imported as a Microsoft Excel spreadsheet. Please note that you will have to convert the **BID** (Badge ID) column to a real number format, instead of the scientific number format to which it defaults.

2. On the report page, you can sort the report by clicking the column headers. Click twice on a column header in the report to change the sort order.

   For example, if the report is sorted with the latest events first, click **Date** and it will be sorted with the earliest events first.

3. Click **Date** again and the report displays the latest events first.

4. If you would like the report to be sorted in alphabetical order by name, instead of sorting by date, click the **Name** column. Click **Date** to sort the report by date order.

➤ **To e-mail any of above reports:**

1. Create the report. When the report is on the screen, go to the top of the page on the right side and enter an e-mail address in the **E-mail this to** box.

2. Select the **HTML** option to send e-mail in HTML format or select **TEXT** to send in pipe delimited format. The file will be sent as a zipped attachment.

3. Click **Go**. A report will be sent to the specified e-mail address.

➤ **To obtain help with selected sections:**

1. Along the right side of the **Personnel Search** page, the ?s (question marks) appear next to each section.

2. Click the **?** and a window displays information pertaining to the selected section.

3. Click **Close** to close this window.

Operator History

The **Operator History** Search allows you to display specific information about changes a Picture Perfect operator has made in the system and when they were made. To access this feature click, **Operator History** on the main page of CARMA.

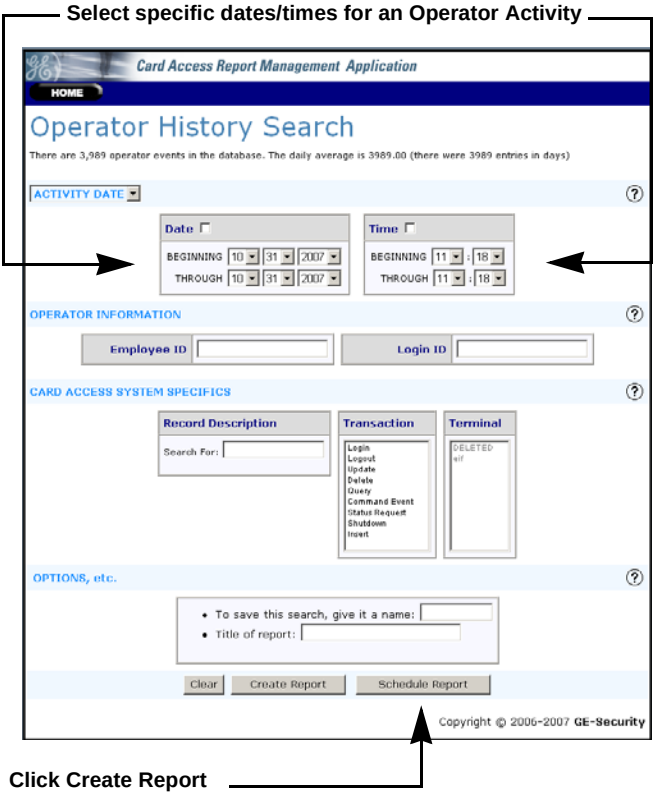


Figure 5-16. Operator History Search

➤ **To select the time zone in which the report data is to be displayed:**

1. Click **ACTIVITY DATE**.

2. Select either **HOST, OPR, or UTC** to specify a context of either Host, Operator, or Coordinated Universal time for the report data.

➤ **To search operator history for a specific time period:**

1. Use the list boxes next to **Date** and **Time** in the first section of this page entitled **Activity Date**.

2. Start by selecting the dates on which you want to generate the report by using the list box.

3. If you would like to narrow the search further, enter specific times by using the list box. You may then scroll to the bottom of the screen and click **Create Report**.

➤ **To search operator history by Employee ID # or Login ID # if you need a report on a certain operator:**

1. Enter the information you choose to use in the specified fields, which is found in the second section of this page entitled **Operator Information**.

2. Scroll down to the bottom of the page and click **Create Report**. This displays a complete operator history for that particular operator.

3. Narrow your search by using both of the above mentioned searches together. To do this, enter in the needed information under **Activity Date** and **Operator Information** and then scroll to the bottom of the page and click **Create Report**.

4. You may also choose from the **Card Access System Specifics**. In this area, which is found in the third section of the **Operator History** page, you can choose selections under **Record Description**, **Transaction,** and **Terminal** to narrow your search. A menu from which no selections have been made will not be applied to the search category.

   For example, if you do not select any of the entries under **Transaction**, all options under **Transaction** are considered for the purpose of the search.

5. In this case the **Card Access System Specifics** can be used alone, without having

to choose any information from the **Activity Date** or **Operator Information** sections.

For example, if you would like to generate a report on all logins, choose **Login** under **Transaction** and click **Create Report**. The resulting report shows all operator logins.

➤ **To choose how you would like the report to list badge events:**

Note at the very bottom of the **Operator History** page is a box entitled **Options, etc**.

- You may elect to give the report a name so that you can run the same report again later.
- You may also change or append the default report title when it is generated by changing the text in the **Title of Report** text box.

➤ **To save your query by giving it a name:**

1. Type in a name in the provided box in **Options, etc**. Once the report is created, its name is displayed next to **Saved Queries**.
2. Use the list box next to **Saved Queries to** retrieve saved reports and choose the report you would like to see.
3. If at any time you have made an error while entering information and would like to clear the screen, click **Clear** at the bottom of the page and the information you have entered is cleared.

➤ **To schedule a recurring report:**

Schedule reports allows you to create a report based on specific search criteria and then schedule the report to be sent to selected operators on a recurrent basis. The scheduled report will automatically be sent to those operators every week on the scheduled day and time. The reports are sent as a zipped .html file attachment

1. Enter the desired search criteria for the report, and instead of **Create Report**, click **Schedule Report**. The **Schedule Recurring Reports** page will appear.

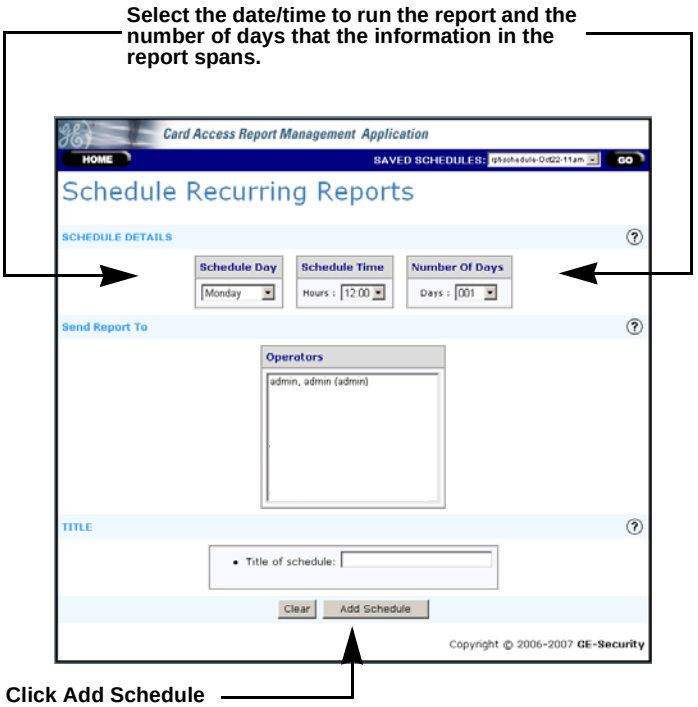


Figure 5-17. Schedule Recurring Reports

2. Select the schedule day and schedule time that you want to send the report to selected operators.

3. Select the number of days that the report covers. For example, if you want data for the past 24 hours, select 1 and if you want data for the past week, select 7. The maximum number of days from which to include data is 365.

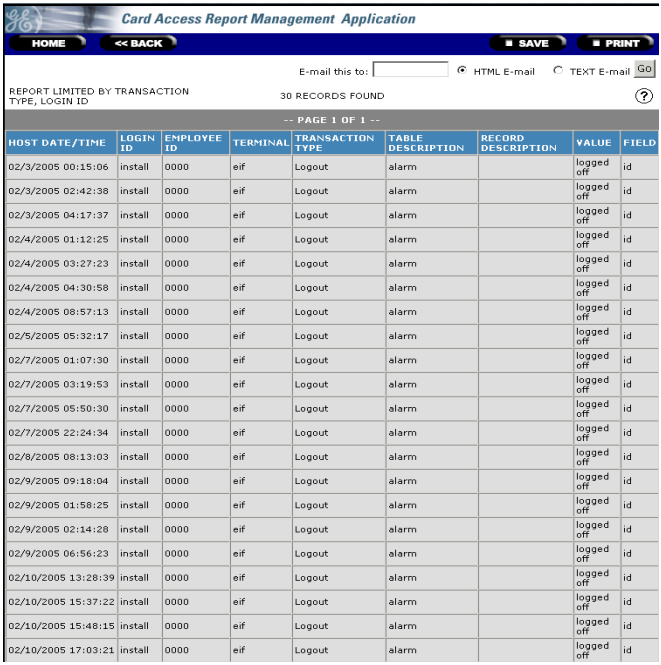
4. Go to the **Send Report To** section and select a list of operators to whom you want to send reports. Holding down the **CTRL** key while clicking on submenu items allows multiple selections within that submenu as well as the ability to deselect an item.

5. Enter the report title in the **TITLE** section and then click **Add Schedule** to add this schedule. Click **Clear** button to remove the selections.

NOTE A scheduled report cannot be saved if:

- The title is left blank
- Another scheduled report with the same title has been created by the same login.
- Date option is selected

The Generated Report Page



Card Access Report Management Application

HOME << BACK SAVE PRINT

E-mail this to: HTML E-mail TEXT E-mail Go

REPORT LIMITED BY TRANSACTION TYPE, LOGIN ID

30 RECORDS FOUND

-- PAGE 1 OF 1 --

HOST DATE/TIME	LOGIN ID	EMPLOYEE ID	TERMINAL	TRANSACTION TYPE	TABLE DESCRIPTION	RECORD DESCRIPTION	VALUE	FIELD
02/3/2005 00:15:06	install	0000	eif	Logout	alarm		logged off	id
02/3/2005 02:42:38	install	0000	eif	Logout	alarm		logged off	id
02/3/2005 04:17:37	install	0000	eif	Logout	alarm		logged off	id
02/4/2005 01:12:25	install	0000	eif	Logout	alarm		logged off	id
02/4/2005 03:27:23	install	0000	eif	Logout	alarm		logged off	id
02/4/2005 04:30:58	install	0000	eif	Logout	alarm		logged off	id
02/4/2005 08:57:13	install	0000	eif	Logout	alarm		logged off	id
02/5/2005 05:32:17	install	0000	eif	Logout	alarm		logged off	id
02/7/2005 01:07:30	install	0000	eif	Logout	alarm		logged off	id
02/7/2005 03:19:53	install	0000	eif	Logout	alarm		logged off	id
02/7/2005 05:50:30	install	0000	eif	Logout	alarm		logged off	id
02/7/2005 22:24:34	install	0000	eif	Logout	alarm		logged off	id
02/8/2005 08:13:03	install	0000	eif	Logout	alarm		logged off	id
02/9/2005 09:18:04	install	0000	eif	Logout	alarm		logged off	id
02/9/2005 01:58:25	install	0000	eif	Logout	alarm		logged off	id
02/9/2005 02:14:28	install	0000	eif	Logout	alarm		logged off	id
02/9/2005 06:56:23	install	0000	eif	Logout	alarm		logged off	id
02/10/2005 13:28:39	install	0000	eif	Logout	alarm		logged off	id
02/10/2005 15:37:22	install	0000	eif	Logout	alarm		logged off	id
02/10/2005 15:48:15	install	0000	eif	Logout	alarm		logged off	id
02/10/2005 17:03:21	install	0000	eif	Logout	alarm		logged off	id

Figure 5-18. Operator History Report

➤ **To navigate the generated report page:**

1. The number of records that particular report contains is listed at the top of each report. If a report has multiple pages, you can move to the next page in the report by clicking **Next**.

2. Click **End** to move to the last page of the report.

3. Click **Back** to return to the query page that you used to create the report.

4. Click **Home** to return to the CARMA main page.

➤ **To print any of the above reports:**

1. Create the report and, when the report displays, go to the top of the page on the right side and click **Print**.

2. Click **Print** to send the report to your local printer.

3. Click **Back** to return to the report page.

➤ **To save the reports:**

Create the report and then when the report displays, go to the top of the page on the right side and click **Save**.

The report is saved as a text file and may be imported into a desktop application. If you are using Microsoft Excel, the file is imported as a Microsoft Excel spreadsheet.

➤ **To e-mail any of above reports:**

1. Create the report. When the report is on the screen, go to the top of the page on the right side and enter an e-mail address in the **E-mail this to** box.

2. Select the **HTML** option to send e-mail in HTML format or select **TEXT** to send in pipe delimited format. The file will be sent as a zipped attachment.

3. Click **Go**. A report will be sent to the specified e-mail address.

➤ **To obtain help with selected sections:**

1. Along the right side of the **Operator History** page, the **?**s (question marks) appear next to each section.

2. Click the **?** and a window displays information pertaining to the selected section.

3. Click **Close** to close this window.

Monitor Hosts and Micros

➤ **To access the Monitor Hosts and Micros** page**:**

1. Click **Monitor Hosts and Micros** on the main page of CARMA. This page displays explicit information about the hosts and micros running your card access system.

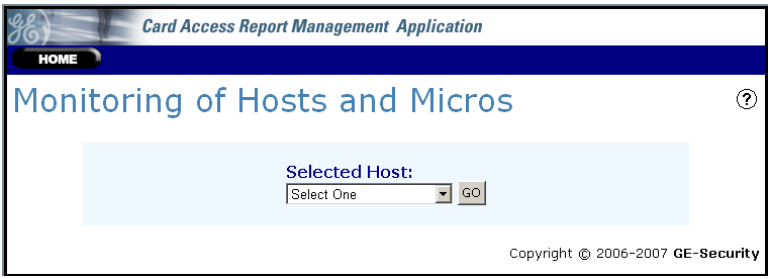


Figure 5-19. Monitoring of Hosts and Micros

After choosing **Hosts and Monitors,** a page is displayed that gives **Selected Host and Monitor Information**. **Selected Host** tells you the name of the host. If more than one host appears, select which host you would like to query against. Next to **Monitor** is a list box from which to choose.

2. Select the item (as described below) under the list box that you would like to see and click **Go.**

- **Host status**. Select **Host Status** to retrieve the time of day, how many days the host has been up, how many users the host has, and the load average.
- **Host TCP Services**. This tells you which services on the selected host are running and which are not. Some services, like SSH (Secure Socket Shell), may not be installed and should not be of concern if shown as not running.
- **Micro Status**. This function provides the Micro status information for all of the micros on the current host/subhost. This is the same command as if running **`mstate -qma`** on the Picture Perfect host, except all information is kept on one scrolling screen.
- **Database Status**. Select this to retrieve: the Informix database name, computer name, time of day, Informix version, Picture Perfect version, CPU utilization, ratio information, log information and checkpoint information.
- **Filesystem Statistics**. This displays various information about disk usage of the computer.
- **Memory and System Info**. Selecting **Memory and System Info** reports the computer's system attributes. Specifically it reports the model name of the computer, the amount of usable memory, used memory, and unused memory (for AIX). This function

operates slightly differently on the Unixware platform, only showing the shared memory statistics for Picture Perfect.

- **Micro Firmware Versions**. This displays the **Rev #** and **Micro #** of the computer host. This checks all online and communicating micros for the current firmware version in the micro. This report may take some time to complete, depending on the number of micros loaded on the host. This function is not currently supported for Unixware Picture Perfect hosts, but may be generated manually on the host itself using a shell prompt, if desired. Run **`/cas/bin/checkmicros.sh`** while logged in as **`root`**.

➤ **To obtain help with selected sections:**

1. At the top of the right side of the **Monitor Hosts and Micros** page, the **?**s (question marks) appear next to each section.

2. Click the **?** and a window displays information pertaining to the selected section.

3. Click **Close** to close this window.

System Administration

➤ **To access the System Administration page:**

1. Click **System Administration** on the CARMA Main Menu.

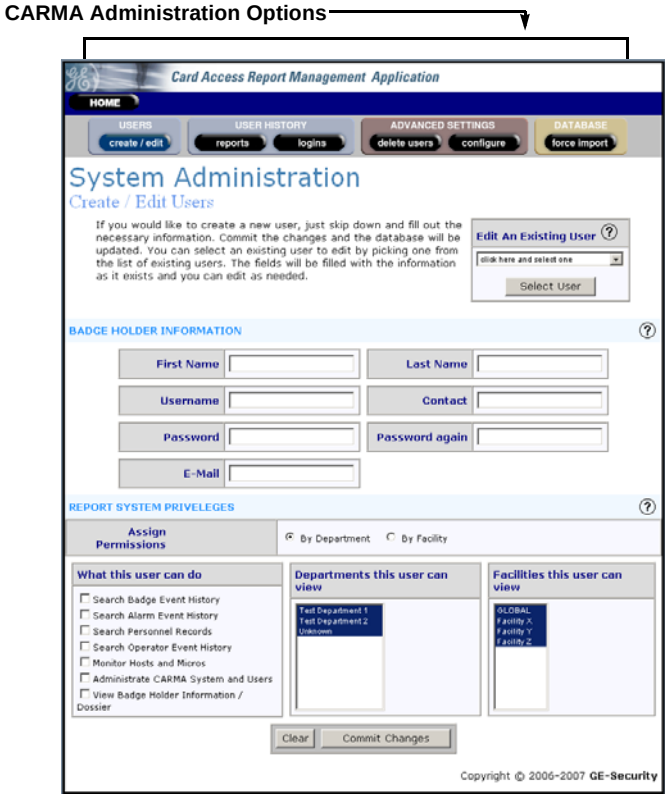


Figure 5-20. Administration

This page allows for the administration of CARMA in several different ways. Different

CARMA administration options can be found at the top of this page. These options are: **USERS: create/edit, USER HISTORY: reports** and **logins, ADVANCED SETTINGS: delete users** and **configure,** and **DATABASE: force import**.

2. Select the item (as described following) under the list box that you'd like to see.

➤ **To access the Create/Edit Users screen:**

1. When you click **System Administration** on the CARMA main menu, the **Create/Edit Users** screen is automatically displayed without having to actually select it from the options listed at the top of the page.

2. In the box to the right of the heading **Create/Edit Users**, you will find a place to **Edit an Existing User**. Use the list box to pick the user that you would like to edit.

3. After you select the user, click **Select User** under the list box. This displays that particular user's file. You can then make changes to the file. Type information in the **Badge Holder Information** section, or click or clear selections in the **Report System Privileges** section.

4. After you have made the appropriate changes, click **Commit Changes** at the bottom of the page. The next window confirms that the user file has been updated.

From here you can edit another existing user by following the same steps.

5. You can also enter information for a new user on the **Create/Edit Users** page. Rather than displaying an existing user with the list box, start entering the new user's information under **Badge Holder Information** and **Report System Privileges**. The password entered in under the **Badge Holder Information** section must be eight characters long.

6. You can limit the records an operator can view by either department or facility. To view more than one department or facility, you must hold down the **SHIFT** key when making additional selections. After you are done entering in all appropriate information, click **Commit Changes** at the bottom of the page. The next screen confirms that you have entered in the information correctly.

7. If at any time you have made an error while entering information, and would like to clear the screen, click **Clear** at the bottom of the page and the information you have entered is cleared.

➤ **To obtain help with selected sections:**

1. Note at the top of the right side of the **Create/Edit Users** page the **?**s (question marks) next to each section.

2. Click the **?** and a window displays information pertaining to the selected section.

3. Click **Close** to close this window at the bottom of the window or the **x** in the upper right side of the window.

➤ **To access the Search User Queries screen:**

1. Note the next button at the top of the **System Administration** page is **User History: reports**.

2. Click this button to display a window entitled **Search User Queries**. This report lists specific queries a user has requested during a certain time frame. All SQL queries generated by users on the CARMA system are saved for at least 90 days, and you can review those SQL queries using this report.

3. Choose the specific dates you want in the **Date Query Was Run** section. You can also choose specific times in this same section if you would like to narrow the search down further. In the second section on this page entitled **User Who Ran the Query**, pick the

CARMA user on which you would like to generate the report.

4. At the very bottom of the **Search User Queries** page is a box entitled **Options, etc**. Here you can choose whether you would like the report to list the badge events with the latest events first (default) or the earliest events first. However, if you would like the report to list the earliest events first click the arrow of the list box and choose **Earliest**.

5. Also found in this **Options, etc.** box is the option to delete logs older than 90 days. To do this, click **Clicking Here.** A new page lists the number of logs found in the **SQL Log History** and the number of outdated rows that were found and deleted. Click **Back** to return to the **Search User Queries** page.

6. If at any time you have made an error while entering information and would like to clear the screen, click **Clear** at the bottom of the page and the information you have entered is cleared. Click **Create Report** when the information you have entered is correct.

7. At the top of this report the number of records shown is listed. You move through this report by clicking **Next** for the next page, **End** for the end of the report, **Back** for the previous page and **Start** for the beginning of the report.

8. Click the column header in the report to sort opposite of how the report is already sorted.

   For example, if the report is sorted latest events first, click **Date** and it will be resorted with the earliest events first.

   Another example: if you would like the report to be sorted in alphabetical order by name, instead of sorting by date, click the **Name** column.

➤ **To obtain help with selected sections:**

1. Note along the right side of the **Search User Queries** page the **?**s (question marks) next to each section.

2. Click the **?** and a window displays information pertaining to the selected section.

3. Click **Close** to close this window at the bottom of the window or the **x** in the upper right side of the window.

➤ **To access the Search System Logins screen:**

1. Note the next button at the top of the **System Administration** screen is **USER HISTORY: logins**.

2. Click this button to display a page entitled **Search System Logins**. You can review both successful and unsuccessful logins here. All

logins made to the CARMA system are logged for at least 90 days.

3. Choose a date and/or time by using the list boxes in the first section of this page entitled **Date Login Was Made Or Attempted**. Then click **Create Report**.

4. If you would also like to choose a specific CARMA User along with a date and/or time on which to generate the report, do this in the section entitled **User Who Logged In**. You can also choose only successful or unsuccessful logins in this same section by clicking on one or the other in the box entitled **Limit Search To**. If you do not choose either of these, all logins, successful and unsuccessful, will show on the report.

5. At the very bottom of the **Search System Logins** page is a box entitled **Options, etc**. Here you can choose whether you would like the report to list the badge events with the latest events first (default) or the earliest events first. However, if you would like the report to list the earliest events first, click the arrow of the list box and choose **Earliest**.

   Also found in this **Options, etc.** box is the option to delete logs older than 90 days. To do this, click **Clicking Here.** A new page lists the number of logs found in the **SQL Log History** and the number of outdated rows that were found and deleted. Click **Back** to get to the **Search System Logins** page.

6. If at any time you have made an error while entering information and would like to clear the screen, click **Clear** at the bottom of the page and the information you have entered is cleared. Click **Create Report** when the information you have entered is correct.

7. At the top of this report, the number of records shown is listed. You move through this report by clicking **Next** for the next page, **End** for the end of the report, **Back** for the previous page, and **Start** for the beginning of the report.

8. Click the column header in the report to sort opposite of how the report is already sorted. For example, if the report is sorted latest events first, click **Date** and it will be resorted with the earliest events first.

   Another example: if you would like for the report to be sorted in alphabetical order by name, instead of sorting by date, click the **Name** column.

9. On the report page, you can sort the report by clicking the column headers. Click a column header in the report to sort opposite of how the report is already sorted.

   For example, if the report is sorted latest events first, click **Date** and it will be resorted with the earliest events first. Click **Date** again and the report returns to being sorted with the latest events first.

Another example: if you would like the report to be sorted in alphabetical order by name, instead of sorting by date, click the **Name** column and this will happen. Click **Date** and the report returns to sorting by date.

➤ **To obtain help with selected sections:**

1. Note at the top of the right side of the **Search System Logins** page the **?**s (question marks) next to each section.

2. Click the **?** and a window displays information pertaining to the selected section.

3. Click **Close** to close this window at the bottom of the window or the **x** in the upper right side of the window.

➤ **To access the Delete Users screen:**

The next button at the top of the **System Administration** screen is **ADVANCED SETTINGS: delete users**. Click this to display a page entitled **Delete Users**. This function allows you to permanently delete a CARMA user from the system. Choose the user to be deleted, and click **Delete this User**. If a user is deleted after a schedule is created, the schedule is updated so that no mail is generated to the deleted user.

➤ **To access the System Configuration screen:**

The next button at the top of the **System Administration** screen is **ADVANCED SETTINGS: configure**. Click this to display a page entitled **System Configuration**. This screen is used to configure the operating parameters of the CARMA application itself. The item options have explanations for each field, and should be changed to match your specific needs.

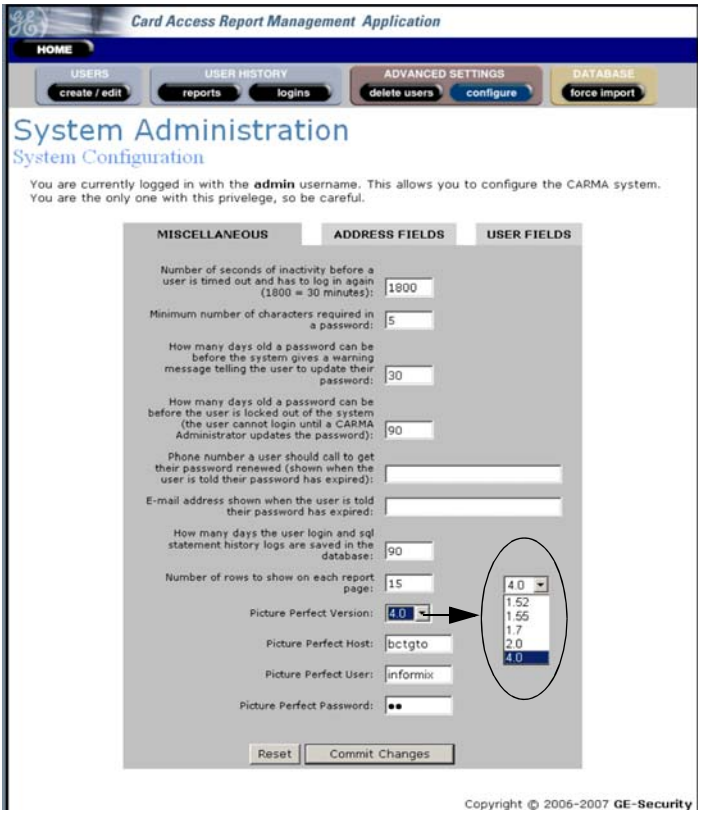

Card Access Report Management Application
HOME
USERS
create / edit
USER HISTORY
reports
logins
ADVANCED SETTINGS
delete users
configure
DATABASE
force import
System Administration
System Configuration
You are currently logged in with the admin username. This allows you to configure the CARMA system. You are the only one with this privelege, so be careful.
MISCELLANEOUS
ADDRESS FIELDS
USER FIELDS
Number of seconds of inactivity before a user is timed out and has to log in again (1800 = 30 minutes):
1800
Minimum number of characters required in a password:
5
How many days old a password can be before the system gives a warning message telling the user to update their password:
30
How many days old a password can be before the user is locked out of the system (the user cannot login until a CARMA Administrator updates the password):
90
Phone number a user should call to get their password renewed (shown when the user is told their password has expired):
E-mail address shown when the user is told their password has expired:
How many days the user login and sql statement history logs are saved in the database:
90
Number of rows to show on each report page:
15
Picture Perfect Version:
4.0
1.52
1.55
1.7
2.0
4.0
Picture Perfect Host:
bctgto
Picture Perfect User:
informix
Picture Perfect Password:
Reset
Commit Changes
Copyright © 2006-2007 GE-Security

Figure 5-21. System Configuration

➤ **To access the DATABASE: force import option:**

1. The next function at the top of the **System Administration** screen is **DATABASE: force import**. Click this and a warning statement is displayed.

WARNING

The database import operation is intended for manual import operations when the normal scheduled database import did not work, or you need to generate it manually for some reason.

The preferred method for the Picture Perfect database import is using the CRON scheduler, which is set by default upon installation. If you still need to run this database import operation, be aware that on large systems this could take several hours. On smaller systems it should take less than 30 minutes.

Do not run multiple instances of this import, as you can severely slow down the system. performance.

2. Click **Import** at the bottom of the screen to generate this database import operation.

Secure Socket Layer

Chapter 6

Introduction

In various personal and business situations we are often asked to identify ourselves by using a trusted certificate such as a passport, ID card, or driver's license. The same is true in the world of data communications.

The emergence of Certificate Technologies and Certificate Authorities (CAs) addresses concerns in this area. A certificate is an electronic form of ID used to identify the holder. Certificates are issued by CAs, whose role is to issue and manage certificates and vouch for the certificate holder.

The type of certificate used in CARMA is an X.509 Server Certificate. A Server Certificate is issued by a CA for a particular server (Distinguished Name) and contains the server's Public Key, the owner's organization name, expiry information, and the signature of the issuing body (the CA). When presented to an application, the digital signature is verified by examining the CA signature using the Public Key of the CA, which is built in to the requesting client application. Clients can then check that they are connecting to the expected server, and not to an impostor inserting itself in the communication stream.

The Secure Sockets Layer (SSL) is a protocol, developed by Netscape Communications Corporation®, which establishes a secure connection between a client and server using the technologies described above. The actual encryption algorithm used is developed and licensed by RSA (named after its inventors, Ron Rivest, Adi Shamir and Leonard Adleman). RSA is the only universally accepted Cryptosystem.

This chapter covers the following topics:

- Obtaining a Certificate for the CARMA Server
- Generating and Installing the Certificate

Obtaining a Certificate for the CARMA Server

In order to obtain a certificate from a trusted Certificate Authority (CA) you will need to generate a Certificate Signing Request (CSR) which uniquely identifies your server to the CA.

There are a number of certificate authorities that will issue a certificate for your server. The most well known and trusted ones are:

- Verisign (**http://www.verisign.com**) and
- Thawte Consulting (**http://www.thawte.com**)

Many organizations generate their own certificates for servers such as this, which are only used for internal use and do not require the recognized and trusted name of a CA. If your organization generates its own certificates, then you must still follow the same steps to set up SSL, only you will present your CSR to your internal organization instead of one of the above mentioned CAs.

In order to obtain a Certificate from a CA, you will need to provide the CA with the following:

- Proof of organization name
- Proof of right to use domain name
- Letter of Authorization
- The Certificate Signing Request (CSR)

Proof of Organization Name

- Companies, Corporations, Incorporations

  You will need a copy of your official company registration documents or certificate of incorporation in your state or country. CAs are generally very strict about this, and will not waive these requirements.

- Partnerships

  You should be registered with national, state, or local authorities. You will need to provide a copy of some form of verifiable proof of the partnership name.

- Proprietorships and DBAs

  If you are a sole proprietor or DBA (Doing Business As), you will need a copy of your DBA registration papers for local levies and taxes. Any official correspondence indicating your right to use the name given on your request will generally be sufficient, as long as the CA can verify it with the relevant authority.

Proof of Right to Use Domain Name

Generally you will not need proof if your domain is registered to your company exactly as it is in your CSR. If you will not be using the CARMA server on the Internet, you probably will not need this.

If your domain is registered to a person, the CA will generally require a letter authorizing your organization to use the domain for business purposes from the person to whom the domain is registered.

If you are a subdivision of the company who owns the domain, the CA will require a letter proving this.

If your domain is registered to a company and you have subsequently changed the organization name in any way, the CA will need supporting documentation.

Letter of Authorization

You will need a signed letter from a high-ranking individual in the organization authorizing the use of a Certificate to authenticate the company during secure online communications. This letter must be printed on the organization's letterhead. This is required to prevent unauthorized individuals within an organization from creating an authenticated electronic presence for the organization without proper clearance. The letter needs to establish that the organization's decision-makers have agreed to the use of a Certificate, and must be signed by the decision-maker and not by a third party. The letter may also be required to authorize a credit card charge to cover the cost of the certificate.

The Certificate Signing Request (CSR)

A CSR is a block of encrypted code generated by your server, which contains the unique information about your server that is necessary for the CA to generate your certificate. Once you obtain your certificate you will need to install it on your server before you can use the SSL feature.

Generating the CSR and Installing the Certificate

➤ **To generate the CSR and install the certificate:**

1. Log in as **root**.

   Result: A # prompt will display.

2. Change to appropriate directory by typing the following:

   ```
   cd /etc/httpd/conf [ENTER]
   ```

3. Generate the CSR by typing the following:

   ```
   openssl req -new -key ssl.key/server.key
   > ssl.csr/server.csr [ENTER]
   ```

   Result: Messages similar to the following will appear on the screen:

   ```
   Using configuration from
   /usr/lib/openssl.cnf

   You are about to be asked to enter
   information that will be incorporated
   into your certificate request. What you
   are about to enter is what is called a
   Distinguished Name or a DN. There are
   quite a few fields but you can leave some
   blank. For some fields there will be a
   default value. If you enter '.', the
   field will be left blank.

   -----

   Country Name (2 letter code) [US]:

   State or Province Name []:FL

   City (Locality) Name []:Boca Raton
   ```

```
Company (Organization) Name
[]:GE

Department Name []:Marketing

Server Host Name []:carma.ge.com

Server Administrators Email Address
[]:zev.Freidus@ge.com

Please enter the following 'extra'
attributes to be sent with your
certificate request

A challenge password []:xxxxxxxx

An optional company name []:

NOTE: Be sure that you enter in the
"Server Host Name" field the exact name
of your CARMA server. If you will be
accessing your server using the Fully
Qualified Domain Name then it must be
entered this way in the CSR. For example
if your server name is "carma" and you
will be accessing it using a URL such as
carma.ge.com then you must enter
carma.ge.com in the Server Host Name
field. If this information is entered
incorrectly, SSL will not function
properly and this information can NOT be
changed once you get your Certificate.
```

4. Change directories by typing the following:

   cd /etc/httpd/conf/ssl.csr [ENTER]

   There will be a file in this directory called server.csr. This is your CSR.

5. Present your CSR to a CA along with the other relevant information to receive your Certificate.

6. Once you receive your Certificate copy it to the following location:

   `/etc/httpd/conf/ssl.crt/server.crt`

7. Restart your CARMA Web server by typing the following:

   `/etc/init.d/httpd restart [ENTER]`

   Result: Messages similar to the following will appear on your screen:

   ```
   Shutting down http:   [OK]
   Starting httpd:   [OK]
   ```

You are now ready to begin using SSL with your CARMA Web server. To access the server using SSL, simply prefix your URL with https instead of the standard http.

Advanced Configuration

Appendix

A

Introduction

This appendix contains a collection of application notes outlining various procedures that may be useful to the CARMA system administrator in troubleshooting and/or making advanced configuration changes. It is intended for individuals who have prior UNIX Systems Administration experience. All others should call GE customer support for assistance.

This appendix covers the following topics:

- Shutting Down and Rebooting the CARMA server
- Verifying that mySQL is Running
- Resetting the CARMA Database
- Manually Running the Sweeper Program
- If You are Unable to Connect to the Picture Perfect Database
- Turning on Verbose Mode
- Turning on Error Logging
- Changing the Sweeper Schedule

- Changing Parameters Supplied During Installation
- Backing up the Database
- Restoring the Database
- Verifying the Daily Import
- Viewing System Information

Shutting Down and Rebooting the CARMA Server

➤ **To shut down and reboot the CARMA server, log in as root, and type:**

```
reboot [ENTER]
```

➤ **To shut down the computer so it can be powered off, log in as root, and type:**

```
halt [ENTER]
```

Verifying that mySQL is Running

➤ **To verify that mySQL is running.**

Log in as root and type:

`mysyqladmin proc status [ENTER]`

Result: Messages similar to the following will be displayed on your screen:

```
mysqladmin proc status
Id      User    Host        db  Command    Time    State   Info |
73      root    localhost       Query      0       showprocesslist

Uptime: 143331  Threads: 1  Questions: 72715  Slow queries: 12
Opens: 352 Flush tables: 5  Open tables:
3 Queries per second avg: 0.507
```

Note that the uptime reported is the number of seconds the server has been running since the last reboot.

Resetting the CARMA Database

➤ **To reset the CARMA database, type:**

`/usr/local/carma/resetdb.sh [ENTER]`

This resets the CARMA database to its default settings. The next time the Sweeper runs it will rebuild the database from the Picture Perfect database. However, any history no longer on the Picture Perfect host will no longer be available through CARMA. Additionally, any CARMA operators you have defined will need to be re-created.

Manually Running the Sweeper Program

➤ **To manually run the Sweeper program, type:**

```
/etc/cron.daily/carma.cron [ENTER]
```

Executing this command will run the Sweeper. It is automatically run every night with the cron schedule, but you may run it manually. Depending on your database size, this could take a while to complete.

NOTE

A database with less than a 100,000 records will generally transfer in about 30 minutes. A database with two million records will generally transfer in about five hours. Network configuration and traffic will also affect transfer time, therefore, individual results may vary.

During this time you will not see any activity on the screen, although the transfer is taking place.

WARNING

Do NOT interrupt the Sweeper while in progress, and do NOT run multiple instances simultaneously.

You may also manually run the Sweeper by logging in over the browser as the system administrator and clicking on **System Administration** and then on the **Database Import** tab on the top of the screen.

If You are Unable to Connect to the Picture Perfect Database

➤ **If you are unable to connect to the Picture Perfect Database:**

1. Type:

   `ping pphost` **[ENTER]**

   where pphost is the name of the Picture Perfect host. If you receive no answer from the host, check your **`/etc/hosts`** file for an entry for the Picture Perfect host and make sure it is correct. Also, check to ensure that your network is properly configured and connected.

   If you are able to ping the Picture Perfect host, and the import program takes an unusually long period of time to respond with an error message, it is probably timing out waiting for a response from the Informix database. The most likely cause for this is that the database is not running. If Picture Perfect is not running, start Picture Perfect to bring up the database. For more information on starting and stopping Picture Perfect and Informix please see the *Picture Perfect Administration Guide.*

2. For troubleshooting purposes, you may find it necessary to turn on verbose so you can see activity of the import as it happens. To do so please see "Turning on Verbose

Mode" on page A.7. Once this is enabled, manually run the import program again (see "Manually Running the Sweeper Program" on page A.4).

3. You may also want to enable error logging. To do so, please See "Turning on Error Logging" on page A.8. Once this is enabled, manually run the import program again ("Manually Running the Sweeper Program" on page A.4), and then check the error log.

4. If you receive Informix error messages (these usually consist of a dash (-) followed by a number) when trying to connect, it may help to refer to the Informix error descriptions which can be found at:

   `http://www.informix.com/answers/english/ierrors.htm`

5. Another tool you can use to test the connection to the Picture Perfect system is:

   `/usr/local/carma/test` **[ENTER]**

   Using this will prompt you for a Picture Perfect hostname, a username, password, and database name. When prompted for the database name, enter, **`proteus`**. Supply the parameters you wish to use for the connection to Picture Perfect. The test program will then attempt to connect to the server and the database. The results will be displayed on the screen and logged in your CARMA error log file.

Configuring CARMA for a Picture Perfect Redundant System

➤ **To configure CARMA for a Picture Perfect Redundant system, edit the `/etc/carma.conf` file as follows:**

1. Locate the following line:

   ```
   REDUNDANT=0
   ```

2. Change it to:

   ```
   REDUNDANT=1
   ```

Turning on Verbose Mode

➤ **To enable verbose mode edit the `/etc/carma.conf` file as follows:**

1. Locate the following line:

   ```
   SHOW_PROGRESS=0
   ```

2. Change it to:

   ```
   SHOW_PROGRESS=1
   ```

Turning on Error Logging

➤ **To enable error logging, edit the `/etc/carma.conf` file as follows:**

1. Locate the following line:

   ```
   CARMA_LOGFILE=/tmp/carma.log
   ```

   This is the location of the log file. It is set by default to **`/tmp/carma.log`**.

2. In order for the error messages to be written to this file, locate the following line within that file:

   ```
   KEEP_ERRORLOG=0
   ```

3. Change it to:

   ```
   KEEP_ERRORLOG=1
   ```

Changing the Sweeper Schedule

The Sweeper is scheduled using cron, the built-in schedule mechanism of the Linux Operating System. In Red Hat Linux, it is somewhat easier to set up Cron jobs than in other distributions of UNIX. The cron utility automatically executes items in several subdirectories at regular periods as follows:

```
/etc/cron.hourly/
/etc/cron.daily/
/etc/cron.weekly/
/etc/cron.monthly/
```

In the daily cron directory (**`/etc/cron.daily/`**) there is a symbolic link to a script called **carma.cron**. This is the script that does the import. By default, the import runs once a day at 4:02 A.M., local time. If you move this link from this location, it will no longer run on a daily basis. If for example you placed it in the **`/etc/cron.weekly/`** directory, then it would run on a weekly schedule.

Alternatively, you can move the link outside of the automatic execution directories and schedule its execution using the traditional user-level crontab utility. For more information on using crontab please see the Red Hat online documentation at:

`http://www.redhat.com/support/docs/tips/cron/cron.html`

NOTE The actual location of the script is:

/usr/local/carma/carma.cron

Changing the Parameters Supplied During Installation

The easiest way to change the parameters during installation is to remove the CARMA application, and reinstall it. This can be done without removing the mySQL database and therefore your accumulated Picture Perfect data will NOT be lost. To remove the CARMA application, please refer to *Chapter 3 - Installation and Removal*.

➤ **To change the name of the** Picture Perfect **Host without reinstalling CARMA:**

1. Edit the **`/etc/hosts`** file to reflect the new name and/or address of the Picture Perfect host.

   Edit the following files to reflect the new Picture Perfect hostname.

   Example 1 on page A.11:

   `/etc/carma.conf`

   Example 2 on page A.12:

   `/opt/informix/etc/sqlhosts`

2. Log in to CARMA as the System Administrator. Click **System Administration**, then **Configure**, and supply the updated information.

➤ **To change the Picture Perfect user that CARMA should use to connect to the Picture Perfect database, without reinstalling CARMA:**

1. Edit the following files to reflect the Informix user identification (**`informix_username`**) and password (**`informix_password`**) that you wish to use:

   `/etc/carma.conf`
   `(see example 1)`

   `/opt/informix/etc/sqlhosts`
   `(see example 2)`

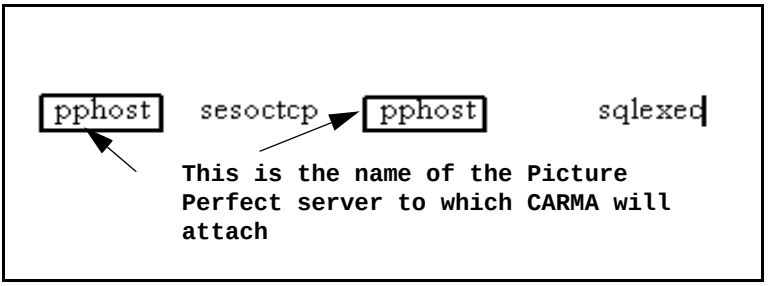
Example 1:
`/etc/carma.conf`

```
DOS - telnet redmoon
INFORMIX_SERVER=casi20linux
INFORMIX_DBNAME=proteus
INFORMIX_USERNAME=informix
INFORMIX_PASSWORD=informix
MYSQL_USERNAME=carma
MYSQL_PASSWORD=carma
MYSQL_DBNAME=carma
TOP_LEVEL_TABLES=category:badge_type:department:facility:facility_operator:facil
ity_profile:host:operator:badgests:xact_desc:meaning:field_desc:table_desc
SUB_HOST_TABLES=micro:area:reader:door:alarm:inputs:badge:input_group:terminal
SPECIAL_TABLES=alarm_history:alarm_historytmp:operator_his:operator_histmp:badge
_history:badge_historytmp
MONTHS_TO_KEEP=24
ADMIN_EMAIL=root
CARMA_LOGFILE=/tmp/carma.log
KEEP_ERRORLOG=1
SHOW_PROGRESS=0
REDUNDANT=0

export MYSQL_USERNAME MYSQL_PASSWORD MYSQL_DBNAME
```

Figure A-1. Example: carma.conf

Example 2:
`/opt/informix/etc/sqlhosts`



2. You will now need to change the user name that CARMA should use when authenticating real time status information:

   a. Log in to CARMA as the System Administrator. Click **System Administration**, then **Configure**, and supply the updated information.

   b. Rerun the Picture Perfect host installation script, as described in "Installing CARMA" on page 3.21, supplying the new user information when prompted.

Backing up the Database

All of the mySQL database tables are stored in the **/var filesystem.**

➤ **To back up the database to tape:**

1. Log in as **root**.

2. Create a disk file for your database backup. Type:

Linux Version ES

mysqldump --opt carma > /var/<*filename*> <ENTER>

Linux Version 7.1, Enterprise 3

mysqldump -u carma -p --opt carma > /var/<*filename*> <ENTER>

where **<*filename*>** is the name of the backup file. For example: **carmabk101003**

3. Insert a tape and type:

tar -cvf/dev/st0 /var/<*filename*> <ENTER>

Restoring the Database

NOTE **IMPORTANT: Restoring your database overwrites the current database.**

➤ **Should the need arise to rebuild your CARMA server (for example: disk failure):**

1. Follow the instructions for loading Linux and the CARMA software in this manual (See *Chapter 3 - Installation and Removal*).

2. To restore your database, insert your **`/var`** backup tape.

3. Log in as **`root`**.

4. Type:

   ```
   cd /var <ENTER>
   ```

   ```
   tar -xvf /dev/st0 <ENTER>
   ```

   Linux Version 7.3

   ```
   mysql -u carma -p -e
   "source /var/<filename>" carma <ENTER>
   ```

   where **`<filename>`** is the name of the backup file. For example: **`carmabk101003`**

Verifying the Daily Import

To check that the daily import was successful:

Type:

```
cd /tmp
```

```
cat carma.log
```

Result: Messages similar to the following will be displayed:

```
[root@carma tmp]# cat carma.log
We're > 1.52 (for plevel)
Start time was Thu Mar  7 04:02:02 2002
```

```
Data Transfer took 8.73333 minutes!
That's 67 records / second!
Indexing Took 3.3 minutes!
Total Time 12.0333 minutes!
```

Viewing System Information

To view CARMA server statistics:

Point your browser to:
http://<CARMA server name>/phpSysInfo/index.php

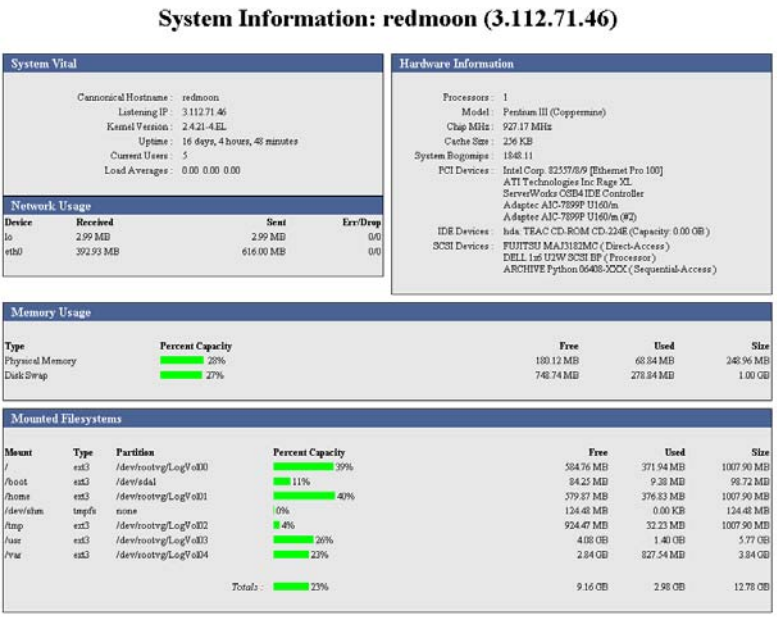

System Information: redmoon (3.112.71.46)
System Vital
Cannonical Hostname : redmoon
Listening IP : 3.112.71.46
Kernel Version : 2.4.21-4.EL
Uptime : 16 days, 4 hours, 48 minutes
Current Users : 5
Load Averages : 0.00 0.00 0.00
Hardware Information
Processors : 1
Model : Pentium III (Coppermine)
Chip MHz : 927.17 MHz
Cache Size : 256 KB
System Bogomips : 1848.11
PCI Devices : Intel Corp. 82557/8/9 [Ethernet Pro 100]
ATI Technologies Inc Rage XL
ServerWorks CSB4 IDE Controller
Adaptec AIC-7899P U160/m
Adaptec AIC-7899P U160/m (#2)
IDE Devices : hda: TEAC CD-ROM CD-224E (Capacity: 0.00 GB)
SCSI Devices : FUJITSU MAJ3182MC (Direct-Access)
DELL 1x6 U2W SCSI BP (Processor)
ARCHIVE Python 06408-XCCC (Sequential-Access)
Network Usage
Device Received Sent Err/Drop
lo 2.99 MB 2.99 MB 0/0
eth0 392.93 MB 616.00 MB 0/0
Memory Usage
Type Percent Capacity Free Used Size
Physical Memory 28% 180.12 MB 68.84 MB 248.96 MB
Disk Swap 27% 748.74 MB 278.84 MB 1.00 GB
Mounted Filesystems
Mount Type Partition Percent Capacity Free Used Size
/ ext3 /dev/rootvg/LogVol00 39% 584.76 MB 371.94 MB 1007.90 MB
/boot ext3 /dev/sda1 11% 84.25 MB 9.38 MB 98.72 MB
/home ext3 /dev/rootvg/LogVol01 40% 379.87 MB 376.83 MB 1007.90 MB
/dev/shm tmpfs none 0% 124.48 MB 0.00 KB 124.48 MB
/tmp ext3 /dev/rootvg/LogVol02 4% 924.47 MB 32.23 MB 1007.90 MB
/usr ext3 /dev/rootvg/LogVol03 26% 4.08 GB 1.40 GB 5.77 GB
/var ext3 /dev/rootvg/LogVol04 23% 2.84 GB 827.54 MB 3.84 GB
Totals : 23% 9.16 GB 2.98 GB 12.78 GB

Figure A-2. System Information

Useful Web Resources

Appendix B

- Red Hat, Inc.

  http://www.redhat.com

  Official Red Hat Linux website. General information, downloads, support, and documentation of Red Hat Linux.

- PHP Website

  http://www.php.net

  Official PHP website. General information, downloads, documentation, and developer information.

- Apache Website

  http://www.apache.org

  The Apache project website.

- Apache SSL Website

  http://www.apache-ssl.org

  Secure Socket Layer version of Apache website.

- O'Reilly Website

http://www.oreilly.com

The leading publishers of books on various including PHP, Apache, Linux, MySQL, etc.

- MySQL website

  http://www.mysql.com

Using the vi Editor

Appendix

C

Overview

The **`vi editor`** is a full-screen editor. While there are several editors available in a UNIX environment, **`vi`** is a standard editor available on every UNIX system.

Modes

The **`vi editor`** has 3 modes: **Command**, **Insert**, and **Ex**.

- **Command:** When you enter the **`vi editor`** you are in **Command** mode. **Command** mode allows you to move around the document.
- **Insert:** Allows you to insert text.
- **Ex:** Used for special operations, such as saving a file and exiting.

Changing Modes

The following table provides a quick reference to the key strokes required to change from one mode to another.

Table C-1: Mode Change Key Strokes

FROM Mode	Key Stroke	TO Mode	Explanation
Command	i	Insert	Allows you to enter text at the cursor
Command	a	Insert	Allows you to enter text after the cursor
Command	o	Insert	Adds a blank line below the current line
Command	O	Insert	Adds a blank line above the current line
Insert	ESC	Command	Allows you to enter command mode
Command	:	Ex	Allows you to enter an Ex command.

Command Mode Functions

The following tables lists some of the functions available when in Command mode.

Table C-2: Command Mode Functions

Function	Key Stroke
Insert text in front of cursor	i
Append text after cursor	a
Move down one cursor position	j
Move up one cursor position	k
Move left one cursor position	h
Move right one cursor position	l
Undo last change	u
Undo all changes to current line	U
Save file and exit	ZZ
Go to beginning of next line	+
Go to beginning of current line	0
Go to beginning of file	1G
Go to end of file	G
Scroll Forward one page	Ctrl-f
Scroll back one page	Ctrl-b
Delete current line	dd

Ex Mode Functions

The following tables lists some of the functions available when in **Ex** mode.

Table C-3: Ex Mode Functions

Function	Key Stroke
Quit without saving	q!
Save and Quit	wq

Editing the /etc/hosts File

Follow the steps below to add the internet addresses of the Host machine and one for the Workstation.

1. At the system console, login as root.

2. To open the **`/etc/hosts`** file using **`vi`**, type: **`vi /etc/hosts`**

   Result: The beginning of the file will display. You can enter the address anywhere in the file but to make the file understandable, add the address in order.

3. To move forward one screen at a time, press Ctrl and f. Continue pressing Ctrl f until you have reached the correct section.

4. Move to the line where you would like to enter the address. You can enter the address above or below this line.

5. To insert a blank line …

6. ABOVE, press Shift O

7. BELOW, press O

8. At the blank line enter the name and address (or address and name depending on the current format of your file).

9. Press the Esc key to move from Insert mode to Command mode.

10. Repeat steps 4 to 9 for each address you need to enter. Remember: you need one address for the Host and one for each Workstation.
    When you have completed entering all addresses, type: **`ZZ`** Enter

    Result: : This will save the changes to the file and exit the **`vi editor`**.

NOTES

License Agreement

Appendix

D

CARMA LICENSE AGREEMENT
CARMA is licensed under the GNU GPL Open Source License. The complete text of the License Agreement follows. You must agree to it's terms and conditions prior to installing or using CARMA.

GE LICENSE FOR CARMA

GE grants licenses to CARMA subject to the terms and conditions of the General Public License, version 2, as reproduced below. GE is the owner of copyright in CARMA and grants only the rights set forth below under Terms and Conditions for Copying, Distribution and Modification.

The term “Program” includes CARMA.

The terms “copyright holder”, “original copyright holder and “original licensor” used below refer to GE.

The term “appropriate copyright notice” means a notice including the following: “© 2001 GE ”, as to the portions authored by GE.

The terms and conditions of this license include only those terms and conditions set forth in the General Public License, version 2, as reproduced below. Except with the explicit and specific written consent of GE, this license will not be modified or superseded to conform with any later version of the General Public License that may be made available by the Free Software Foundation, Inc. or any successor.

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Version 2, June 1991
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Glossary

Appendix

E

This glossary provides extended definitions of terms, which have appeared throughout the manual. Sources used include on-line computer/technology dictionary and encyclopedia references. Many such resources are available to learn more about these terms. The ones consulted here include:

www.whatis.com
www.webopedia.com

AIX. AIX is an open operating system from IBM that is based on a version of UNIX. AIX/ESA was designed for the IBM System/390 or large server hardware platform. AIX/6000 is an operating system that runs on the IBM workstation platform, the RISC System/6000.

Apache. Apache is a freely available Web server that is distributed under an "open source" license. According to the Netcraft (www.netcraft.com) Web server survey in February, 2001, 60% of all Web sites on the Internet are using Apache (62% including Apache derivatives), making Apache more widely used than all other Web servers combined. Apache complies with the newest level of the Hypertext Transport Protocol,

HTTP 1.1. Free support is provided through a bug reporting system and several Usenet newsgroups.

Cron. A Cron script is a list of one or more commands to a computer operating system or application server that are to be executed at a specified time. Each command is executed when its triggering time arrives. In UNIX-based operating systems, the crontab command is a user interface command that creates or changes a file (called a crontab file). This file contains a list of UNIX shell commands, each with a specified time of execution.

Domain. A group of computers and devices on a network that is administered as a unit with common rules and procedures. Within the Internet, domains are defined by the IP address. All devices sharing a common part of the IP address are said to be in the same domain.

Firewall. A firewall is a set of related programs, located at a network gateway server, which protects the resources of a private network from users from other networks. (The term also implies the security policy that is used with the programs.) An enterprise with an intranet that allows its workers access to the wider Internet installs a firewall to prevent outsiders from accessing its own private data resources and for controlling what outside resources its own users have access to.

GPL. Stands for General Public License. The most widespread such license is the GNU General Public License, or GNU GPL for short.

This can be further shortened to GPL, when it is understood that the GNU GPL is the one intended.

Host. In Internet protocol specifications, the term "host" means any computer that has full two-way access to other computers on the Internet. A host has a specific "local or host number" that, together with the network number, forms its unique IP address. If you use Point-to-Point Protocol to get access to your access provider, you have a unique IP address for the duration of any connection you make to the Internet and your computer is a host for that period. In this context, a "host" is a node in a network.

HTML. HTML (Hypertext Markup Language) is the set of markup symbols or codes inserted in a file intended for display on a World Wide Web browser page. The markup tells the Web browser how to display a Web page's words and images for the user.

IP Address. An identifier for a computer or device on a TCP/IP (Transmission Control Protocol/Internet Protocol) network. Networks using the TCP/IP protocol route messages based on the IP address of the destination. The format of an IP address is a 32-bit numeric address written as four numbers separated by periods. Each number can be zero to 255. For example, 1.160.10.240 could be an IP address. Within an isolated network, you can assign IP addresses at random as long as each one is unique. However, connecting a private network

to the Internet requires using registered IP addresses (called Internet addresses) to avoid duplicates.

Linux. Linux (often pronounced LIH-nuhks with a short "i") is a UNIX-like operating system that was designed to provide personal computer users a free or very low-cost operating system comparable to traditional and usually more expensive UNIX systems. Linux has a reputation as a very efficient and fast-performing system. Linux is a remarkably complete operating system, including a graphical user interface, an X Window System, TCP/IP, the Emacs editor, and other components usually found in a comprehensive UNIX system. Linux is publicly open and extendible by contributors. Because it conforms to the Portable Operating System Interface standard user and programming interfaces, developers can write programs that can be ported to other operating systems.

RAID Server. Redundant array of independent disks; originally redundant array of inexpensive disks) is a way of storing the same data in different places (thus, redundantly) on multiple hard disks. By placing data on multiple disks, I/O operations can overlap in a balanced way, improving performance. Since multiple disks increases the mean time between failure (MTBF), storing data redundantly also increases fault-tolerance.

SQL. SQL (Structured Query Language) is a standard interactive and programming

language for getting information from and updating a database. Although SQL is both an ANSI and an ISO standard, many database products support SQL with proprietary extensions to the standard language. Queries take the form of a command language that lets you select, insert, update, find out the location of data, and so forth. There is also a programming interface.

Secure Socket Layer (SSL). A protocol developed by Netscape for transmitting private documents via the Internet. SSL works by using a public key to encrypt data that's transferred over the SSL connection. Both Netscape Navigator and Internet Explorer support SSL, and many Web sites use the protocol to obtain confidential user information, such as credit card numbers. By convention, Web pages that require an SSL connection start with https: instead of http:.

Sendmail. On the Internet, sendmail is the most popular UNIX-based implementation of the Simple Mail Transfer Protocol (SMTP) for transmitting e-mail. When a sendmail server receives e-mail, it attempts to deliver the mail to the intended recipient immediately and, if the recipient is not present, it queues messages for later delivery.

UNIX. UNIX (sometimes spelled "Unix") is an operating system that originated at Bell Labs in 1969 as an interactive time-sharing system. In 1974, UNIX became the first operating system written in the C language. UNIX has evolved as

a kind of large freeware product, with many extensions and new ideas provided in a variety of versions of UNIX by different companies, universities, and individuals. Partly because it was not a proprietary operating system owned by any one of the leading computer companies and partly because it is written in a standard language and embraced many popular ideas, UNIX became the first open or standard operating system that could be improved or enhanced by anyone.

Web Server. A Web server is a program that, using the client/server model and the World Wide Web's Hypertext Transfer Protocol (HTTP), serves the files that form Web pages to Web users (whose computers contain HTTP clients that forward their requests). Every computer on the Internet that contains a Web site must have a Web server program.

X.509. The X.509 standard defines what information can go into a Certificate Authorities (CA), and describes how to write it down (the data format). All X.509 certificates contain: version, serial number, signature algorithm identifier, issuer name, validity period, and subject name.

XML. XML (Extensible Markup Language) is a flexible way to create common information formats and share both the format and the data on the World Wide Web, intranets, and elsewhere. For example, computer makers might agree on a standard or common way to describe the information about a computer

product (processor speed, memory size, and so forth) and then describe the product information format with XML. Such a standard way of describing data would enable a user to send an intelligent agent (a program) to each computer maker's Web site, gather data, and then make a valid comparison. XML can be used by any individual or group of individuals or companies that wants to share information in a consistent way.

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Application Software:_____ **Version:**_____

HW Model:_____**OS Version:**_____

Hardware Platform:	**Operating System:**	**Severity:**	**Replication:**
❒ **Intel PC**	❒ **Windows**	❒ **Cosmetic**	❒ **Every Time**
❒ **RS/6000**	❒ **Linux**	❒ **Undesirable**	❒ **Frequent**
	❒ **AIX**	❒ **Application Crash**	❒ **Intermittent**
		❒ **System Crash**	❒ **One Occurrence Only**
		❒ **Data Loss**	

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